

LaneMaster

LaneMaster is a powerful, feature-rich system.
Please take the time to read this manual before getting started.
It's worth it. We promise!!

Version 2.0

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by Suchadeal Software

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LaneMaster

LaneMaster is a comprehensive, state-of-the-art race and event manager for slot-car racing.

It's fully customizable, very flexible and user-friendly! You can time and report on simple races, or you can completely manage a complex event with hundreds of racers. Separate Qualifying and Event modes, instantly updated, incredibly accurate results, and complete control of all track and race parameters make LaneMaster the finest professional-quality system available. Disaster recovery, automatic track-power control, hands-free racing operation, and the color-coded leader board make LaneMaster a real pleasure to use.

Features:

Works with 2,4,6, or 8 lane tracks.

Instantly updated results - accurate to 1/1000th of a second!

Disaster Recovery - no loss of data, even if the computer is unplugged!

Complete control of Heat, Qualifying, Rotation and Countdown times and more

Extra large on-screen Countdown display

Complete on-screen Lane Rotation guides

Customizable, automatic rotation of racer results to new lanes before each heat

Customizable Lane Colors – Each racer's results shown in the color of the present lane

Round Robin racing – “Lanes plus 26”, up to 34 racers on an 8 lane track, plus optional partial laps by numbered track section

Live, on-line lap total corrections between heats - super easy to use

Timed Race or Race to Lap Goal

Single Heat Mode – no rotation, just a simple race

On-screen help (must have a browser installed, but internet connection not needed)

Prints its own reports

Export any/all results to your favorite spreadsheet or database

Saves race and event results for later viewing and printing with "Race Reporter"

Unique setups for multiple tracks can be saved and loaded in seconds

Fully Mouse and/or Keyboard driven.

Supports external track call switch(es)

Complete, automatic Event Management:

- Type in entrant names once, LaneMaster runs races and tells YOU who's up next.
- Full qualifying features allow qualifying on any lane 'on-the-fly', eliminates ties by using Qualifiers' **three** best times, and allows USRA-style byes.
- Flexible ladder (bracket) options allow Elimination, Round Robin, or Sit-Outs.
- "MoveUps" and racers "On the Bubble" shown at the end of each race.
- Advance printing of upcoming races allows you to post a racing schedule.
- Print any number of copies of complete results at the end of races and qualifying.
- Event name and Class names ("Modified", "Stock", etc.) that you select or create, as well as time and date, appear on all reports.

Single Race Mode available for individual or informal races.

Works with any Windows-based computer (XP/Vista/Win 7) with a USB port.

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a friendly word of advice.....

You could probably get away with not reading this manual, but we *honestly* don't recommend that you try it!

All computer programs try to be the perfect combination of "easy-to-use" and "loaded with features", and LaneMaster is no exception. It's been thoroughly tested and should serve you well, but to really enjoy it and get the most from it, you **must** become familiar with it.

In other words, please don't try to learn the program on 'race day'! We strongly recommend that you sit down after you have loaded the program, turn on 'Demo Mode', and try the various options and modes as you read through this manual. Remember, you don't need the LaneMaster hardware to run simulations, so you can load the software on any machine to practice with and learn about it.

Tip: In order to make it more convenient while you are learning the program, you'll probably want to set heat times to 20 or 30 seconds, and Lane Rotation times to 10 seconds (but not less than 10!!).

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FCC Information

This equipment generates, uses and can radiate low-power radio frequency energy, and if not installed in accordance with the instructions, could cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television equipment, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by using one or more of the following measures:

- Re-orient the receiving antenna.
- Increase the distance between the equipment and the receiver.
- Connect the computer into an outlet on a circuit different from that which the receiver is connected to.
- Consult an experienced radio or TV technician for additional suggestions.

Section 1. Installing and Configuring LaneMaster

Installing the Software

Running Setup

Insert the installation CD into your computer, and setup will begin automatically if your PC's CD drive is configured for auto-start. If not, click "Start" > "Run". Then either:

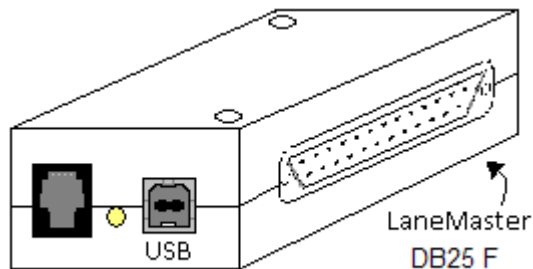
- type in "<Drive>:\setup" (where <Drive> is the letter of your CD drive), and click "Ok", or
- "Browse" to the CD drive and click "setup.exe".

Follow the onscreen instructions to complete program setup.

Note: You can reinstall LaneMaster anytime if you have a problem that you think it might correct. Also, reinstalling or installing a new updated version will preserve all of your stored settings and results, so don't be concerned about having to reconfigure everything or lose data if you upgrade!

Installing the Hardware

Connect LaneMaster to your computer by plugging the included USB cable from the appropriate port on the LaneMaster device into a USB port (preferably USB 2.0, but USB 1.0 is ok) on your PC.



It is strongly recommended that you connect LaneMaster to an available port directly on the PC itself. But if you *must* use a USB hub, use only a hub with its own dedicated power supply.

Track Wiring

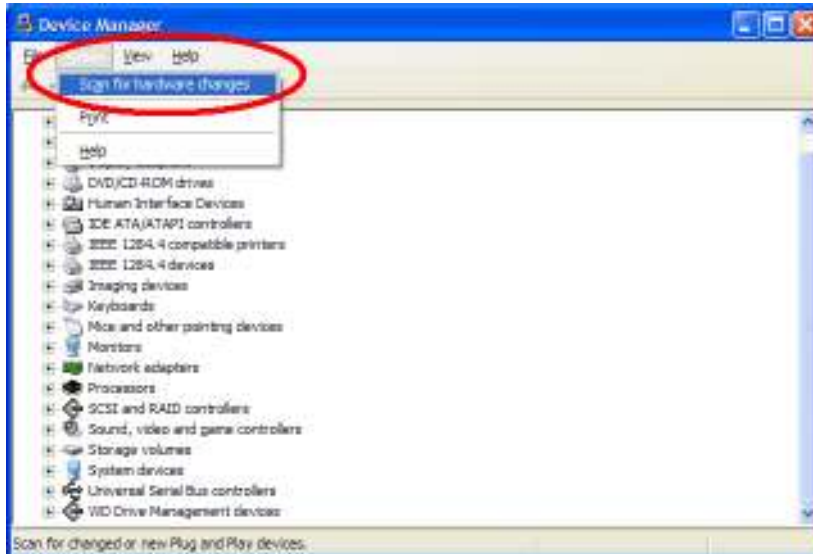
Specifics of connecting the LaneMaster device to your track are covered in detail in Section 5. Note that you can easily move the LaneMaster device to multiple tracks by connecting or disconnecting the device from the standard DB-25 interface plug, as described in that section.

Installing the LaneMaster USB Hardware Driver

With the LaneMaster unit plugged properly into a USB Port, it will power on and the power LED will illuminate. Close any “found new hardware popups”.

Windows XP:

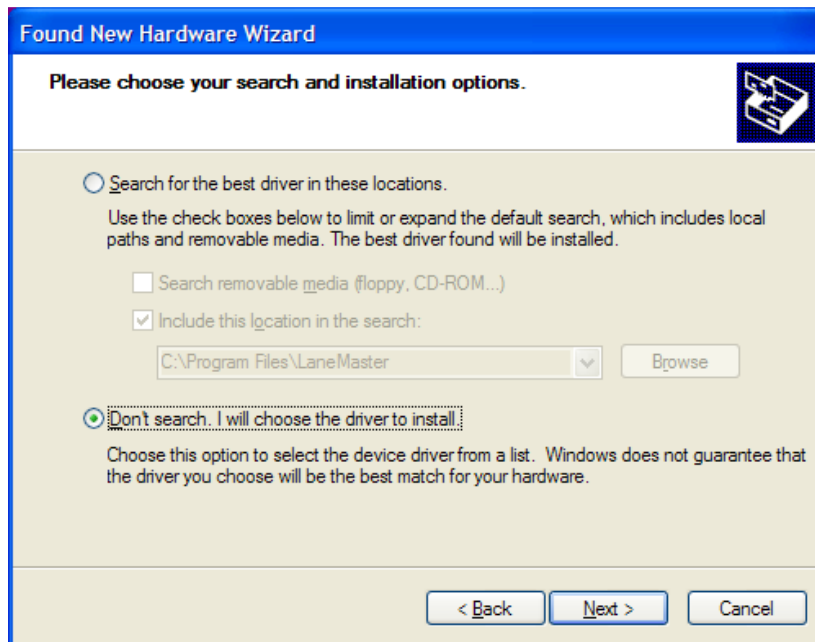
Click “Start” > “Run”, then type in “devmgmt.msc” and click “Ok”. This will start Device Manager. Click “Action” > “Scan for hardware changes”:



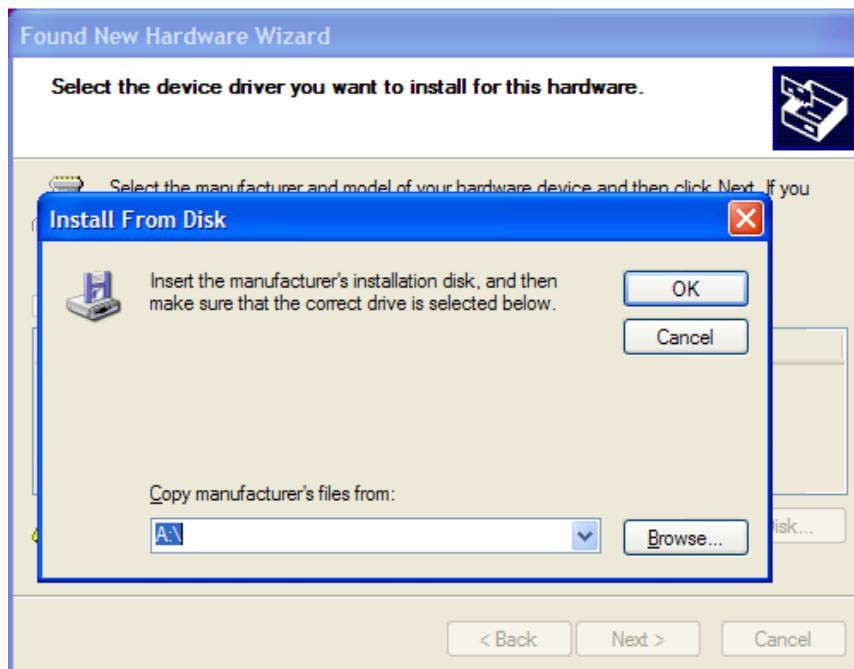
The "Found New Hardware Wizard" will pop up. Click “Install from a list or specific location (Advanced)”, then click “Next”:



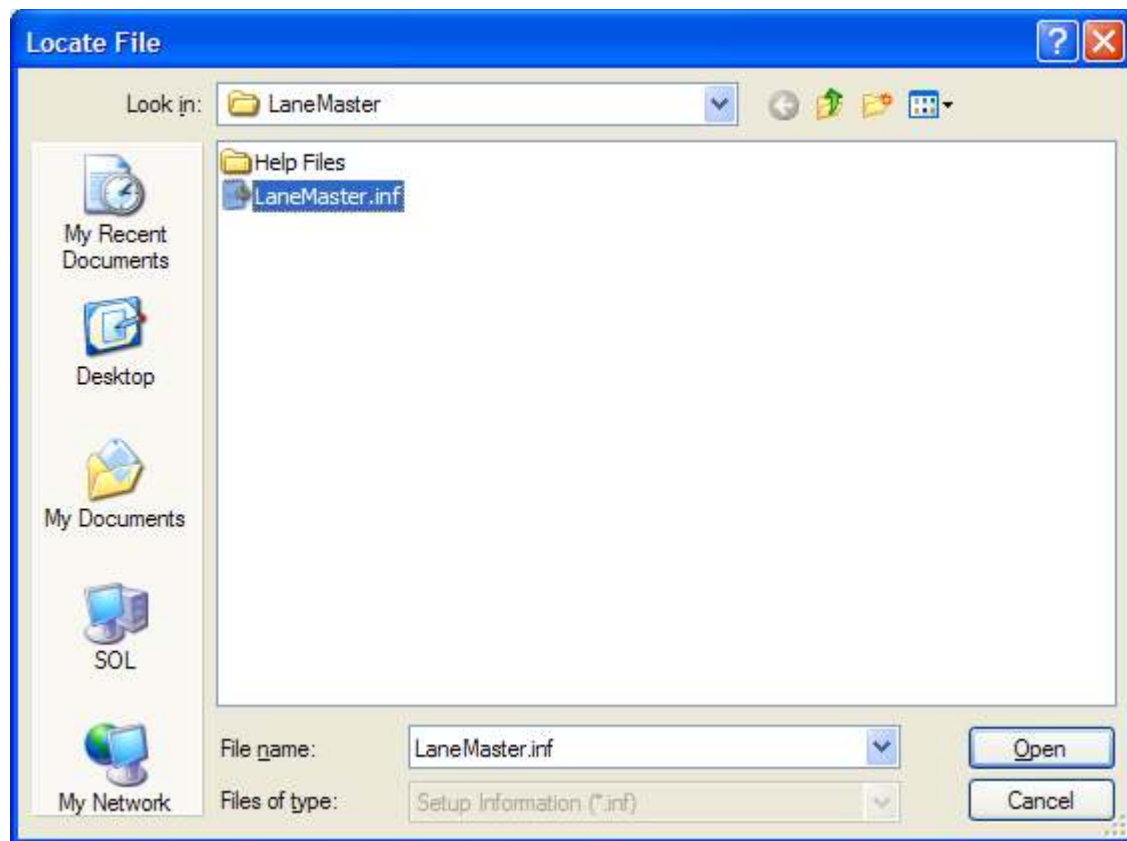
Click "Don't search. I will choose the driver to install", "Next"...



Click "Show all Devices" (if necessary). When the list appears, click "Have Disk":



Click "Browse", then navigate to the file "LaneMaster.inf", which will be found in the directory "<Drive>:\Program Files\LaneMaster\" (usually "C:\Program Files\LaneMaster\"), and select it:



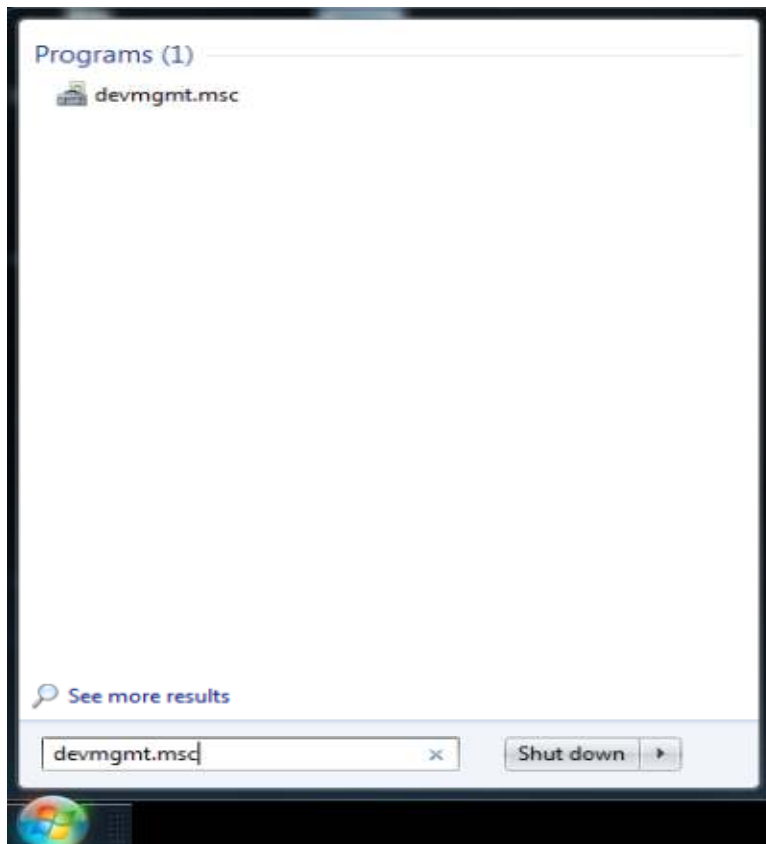
Click "Open", "OK", "Next"

A warning screen may tell you that the driver isn't digitally signed.
Click "Continue Anyway"

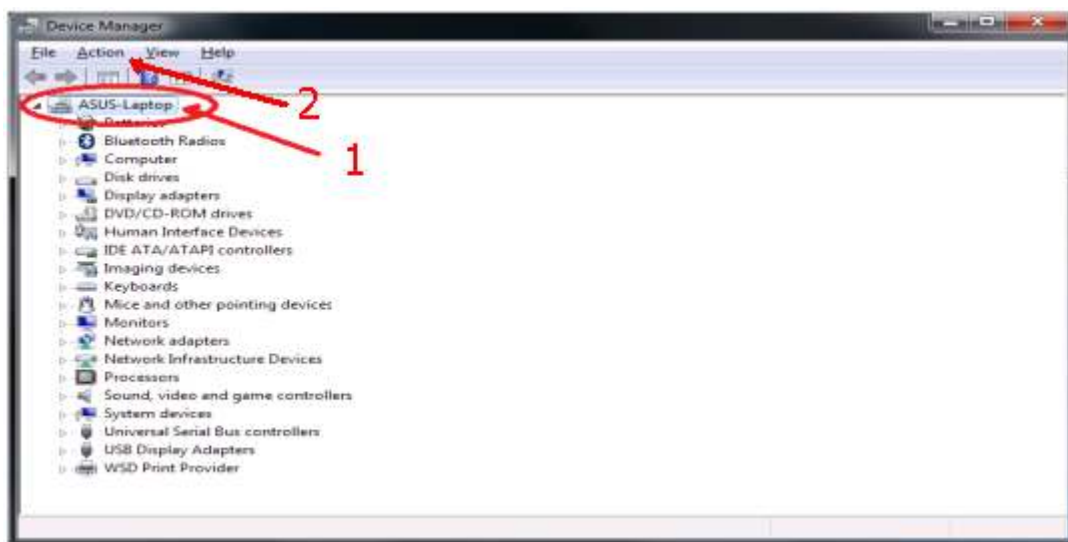
Click "Finish" to close the wizard.

Windows 7:

Click the “Windows” button, then type in “devmgmt.msc” and press “Enter”:



After the security warning (click Yes), this will start Device Manager. First, click to select (1) the name of this computer:



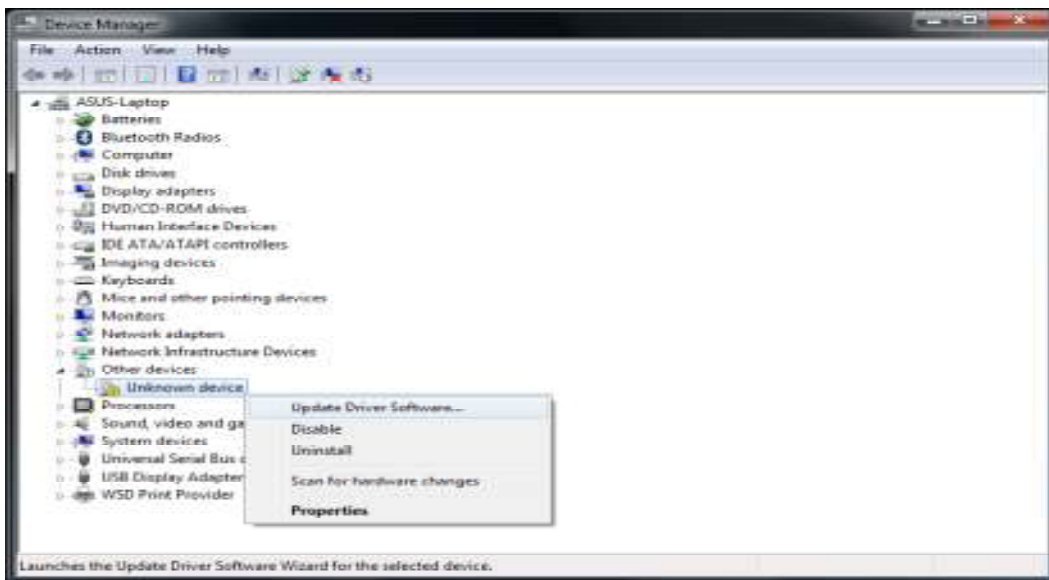
Then click (2) “Action” and “Scan for hardware changes”. Windows will ‘pretend’ it’s going to install the driver...



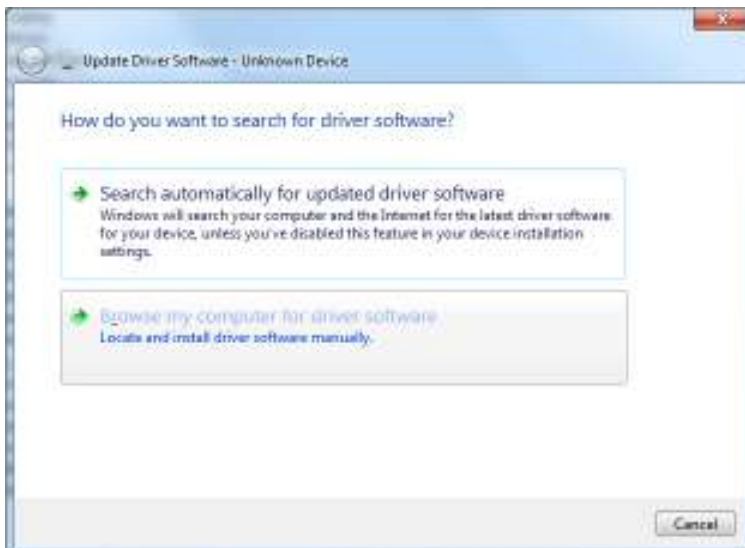
...but then it will fail:



However, Device Manager will now show an “Unknown Device”. Right click on the “Unknown Device” and click “Update Driver Software...”



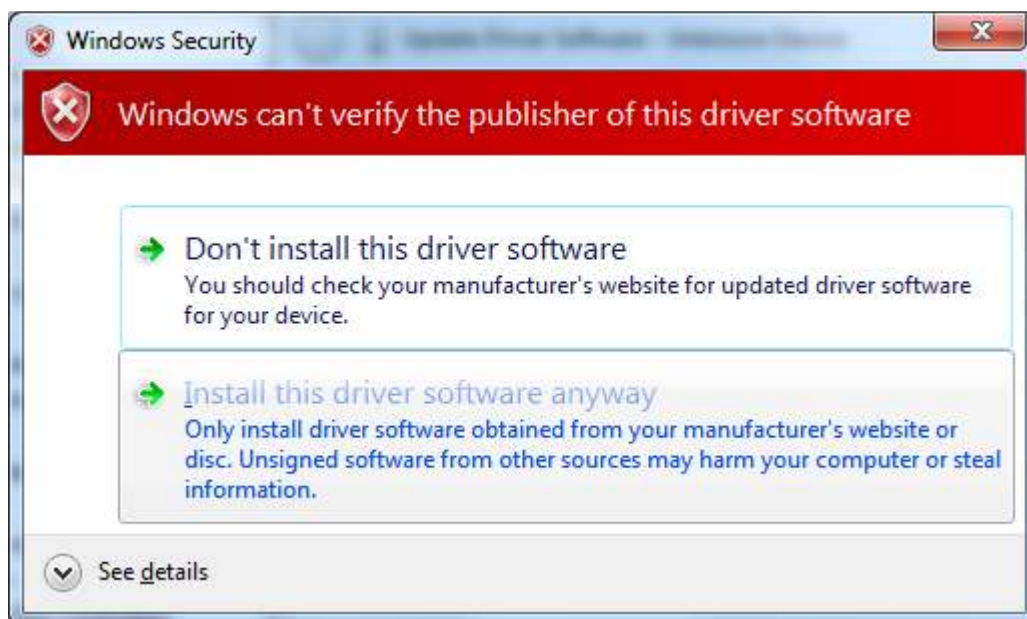
Click to select “Browse my computer for Driver Software”:



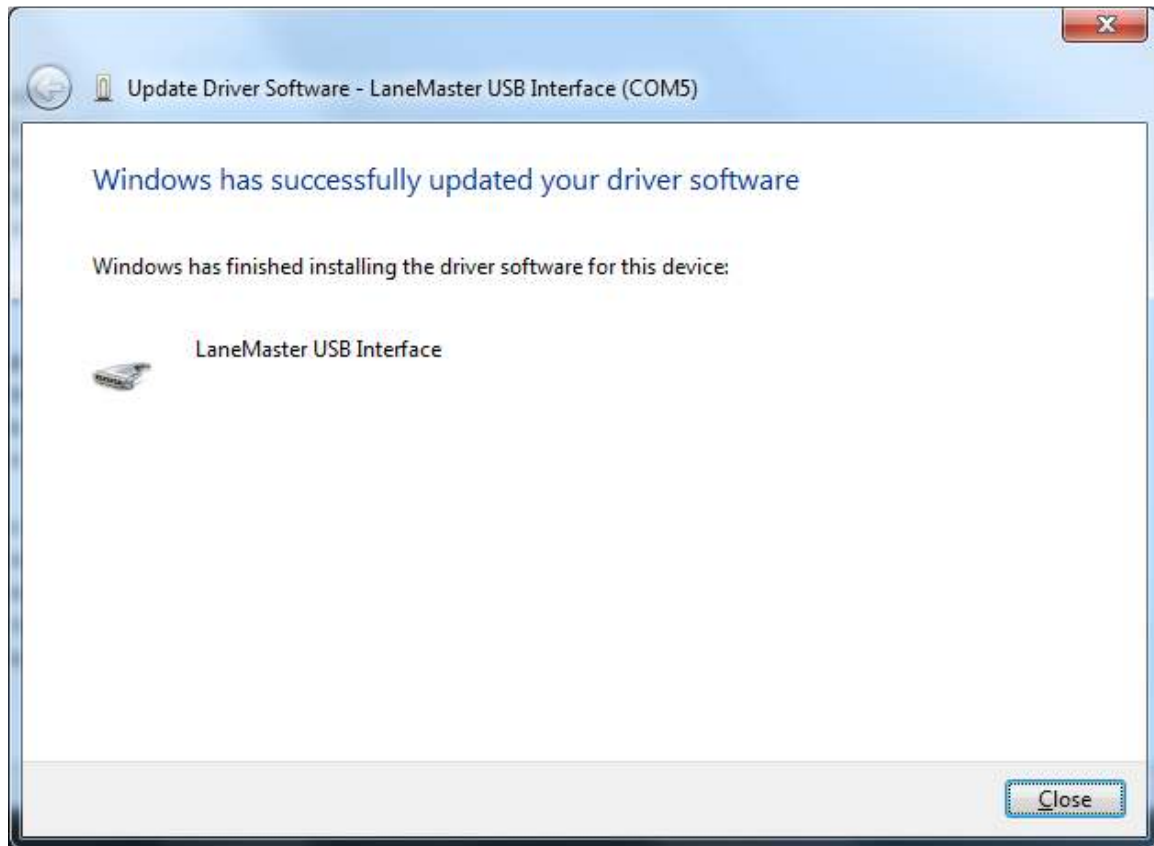
Browse to C:\Program Files (x86)\LaneMaster, and click “Next”:



This security warning will pop up. Click on “Install this driver software anyway”:



After a few seconds, you will see this screen:

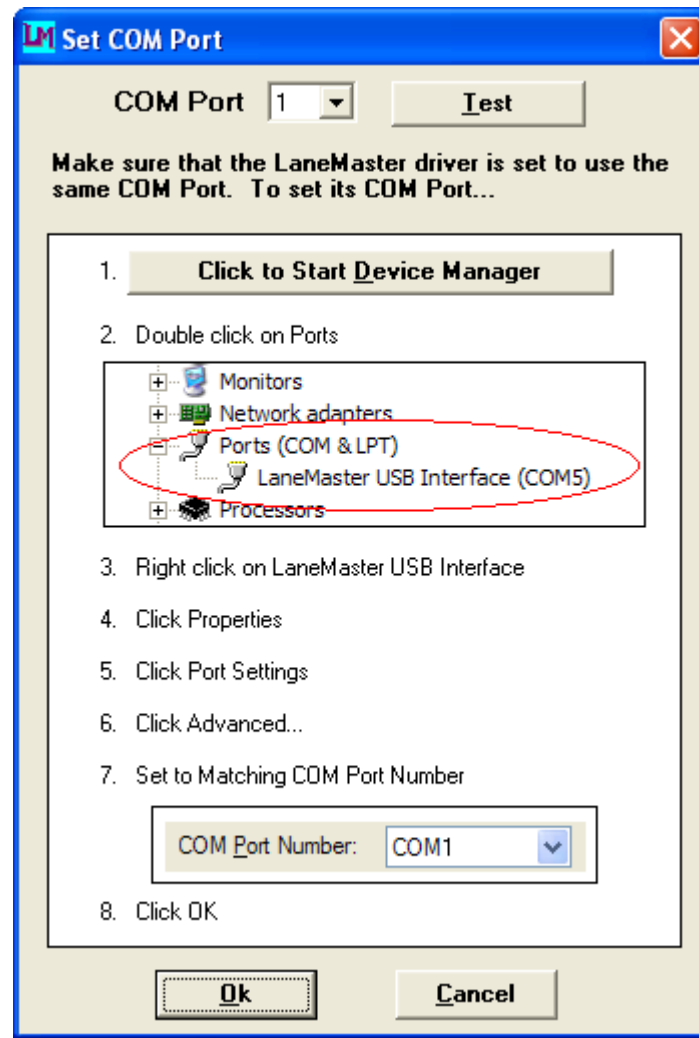


Click "Close" to complete the installation.

Testing the Connection and Setting the COM Port (if necessary)

LaneMaster is designed to find the interface unit automatically, regardless of which COM port the driver is set to. However, sometimes the process doesn't work as perfectly as one would like. So if you cannot connect to the interface, use the following steps.

With the driver installed, and the unit plugged into the computer, run LaneMaster. Click on Settings > COM Port...



If the COM Port shown at the top of the screen does not match the driver setting, drop down the list and select the correct COM Port, then click "Test". If the test is unsuccessful, click on the button "Click to Start Device Manager", and follow the instructions shown on the Set COM Port screen (above), to try a different COM Port.

Additional Important Notes About LaneMaster

LaneMaster Fault Indicator

The LED on the LaneMaster unit serves two purposes. When it is green, it means that power is on to the unit. But if there is an electrical problem of some kind, such as too much power being pulled through the unit to drive a non-standard light bar (i.e. one that uses more than 250 mA), the LED will turn red. If the LED is red, remove the unit and inspect your wiring. While the unit has some built-in protection against electrical problems, you should not run it with the red LED activated as you risk damaging it and voiding your warranty.

Shut Down Unneeded Programs

While Windows is designed to run many applications simultaneously, you should try to avoid running other applications while using LaneMaster, if you can. LaneMaster is a “real-time” application and screen updates could be slightly delayed, particularly on a slow computer, if another program interrupts to take more processor time and/or write to the hard drive. No data will be lost – the unit will internally buffer up to 25 lap events for as long as needed, but the display will be more responsive if other programs are not competing with it.

Sleep Mode

As mentioned above, LaneMaster is a real-time application. Because of this, there can be issues when your computer goes into Sleep Mode, shutting down the hard drive and/or going into hibernation. This will almost never be a problem during normal racing, because you will interact with the computer often enough to keep it from sleeping. But if you are using Practice Mode, for example, and only running laps with long delays between runs, you should either disable sleep mode, or set it to a very long interval (longer than your likely delay between runs). LaneMaster has a screen saver built in, which automatically runs after 10 minutes of inactivity, so you should not have to worry about screen burn-in.

Section 2. Terms and Definitions

LaneMaster has two screen modes ("**Views**"):

Data View

Data View mode is where you configure and control LaneMaster's features, from setting up the timing, lane colors and rotation to inputting names, qualifying and kicking off races and events. It can even be used to correct lap totals if necessary during the race.



Output View

Output View displays current results during racing, qualifying, or practice in large type for easy viewing from a distance. These results are color-coded by lane and are updated from 1 to 4 times per second (depending on your computer speed and the timer setting in the "Hardware" window). While a heat is running, racer's results are constantly updated, and shown in descending order by total Race (NOT Heat) Laps. During Qualifying, Output view is used to display the latest and the three best laps for the current Qualifier.

Output View (continued)

LaneMaster		Southpark Lanes - King Scorpion Track			
		LaneMaster - Race Mode			
Heat: 3		Time Remaining:			2:51
Lane	Driver	Race	Heat	Last Lap	Best Lap
4	Robert Heinlein	70	2	3.330	3.330
3	David Brin	68	2	2.823	2.823
8	Isaac Asimov	65	2	2.765	2.765
2	Piers Anthony	64	2	3.548	3.548
6	Poul Anderson	63	1	0.000	0.000
5	Arthur Clarke	60	2	4.215	4.215
1	Greg Bear	59	2	2.543	2.543
7	Gordon Dickson	59	2	3.468	3.468

Press the Space Bar for a Track Call.

Track Call Exit

Output View during a heat.

LaneMaster		Southpark Lanes - King Scorpion Track			
		Qualifying Time Remaining:			
		0:18			
Now Qualifying:		Arthur Clarke			
Lane	Laps	Best Lap	2nd Best	3rd Best	
6	10	3.019	3.104	3.370	
Latest Lap Time:		3.019			

Press the Space Bar to pause.

Pause Data View

Output View during Qualifying.

LaneMaster has five action modes ("**Modes**"):

Practice

Practice Mode

Opens Output View and shows lanes in order by lane number; displays the Last Lap Time and Best Lap Time for practicing racers. Switching to Practice mode from Event or Qualifying Mode 'clears' LaneMaster, and requires you to re-enter any event information.

Race

Race Mode

Racer names are manually entered or chosen from the list of previous racers in your group. MoveUps are not involved and not tracked, but automatic lane rotation and all other aspects of an "Event" race (see below) are the same. Race mode allows you to enter WarmUp mode, which is identical to Practice mode, except that it does not clear racer names or any race description information.

Qualify

Qualify Mode

Used to create a **Class** or to add entrants to an existing Class. A Class consists of all racers running the same type of cars, for example, "Stock" or "Modified". In Qualify Mode, each entrant runs on the track for an amount of time that you specify and their best times are stored. When they finish, their results are compared to other entrants to determine how well they did within the Class. When all racers in the Class have finished qualifying, you select the ladder (bracket) options for the Class, and then create the **Event File** for the Class. An Event File contains instructions which tell LaneMaster to run either a series of elimination races or a single Round-Robin race for the Class. You can also create an Event File for a Class without having to qualify some or all of the entrants by selecting "AutoQualifyAll". Selecting AutoQualify will place all remaining (selected but not yet qualified) entrants at the bottom of the Qualified List in random order. Please note that you cannot create an Event File for fewer qualifiers than you have lanes. In other words, you cannot create a 5 racer Event on an 8 lane track. You would need at least 9 racers! If you have fewer racers than lanes, you must use Race Mode and manually input or select names and select desired lanes after printing out their Qualifying results.

**Round
Robin**

Round Robin Mode

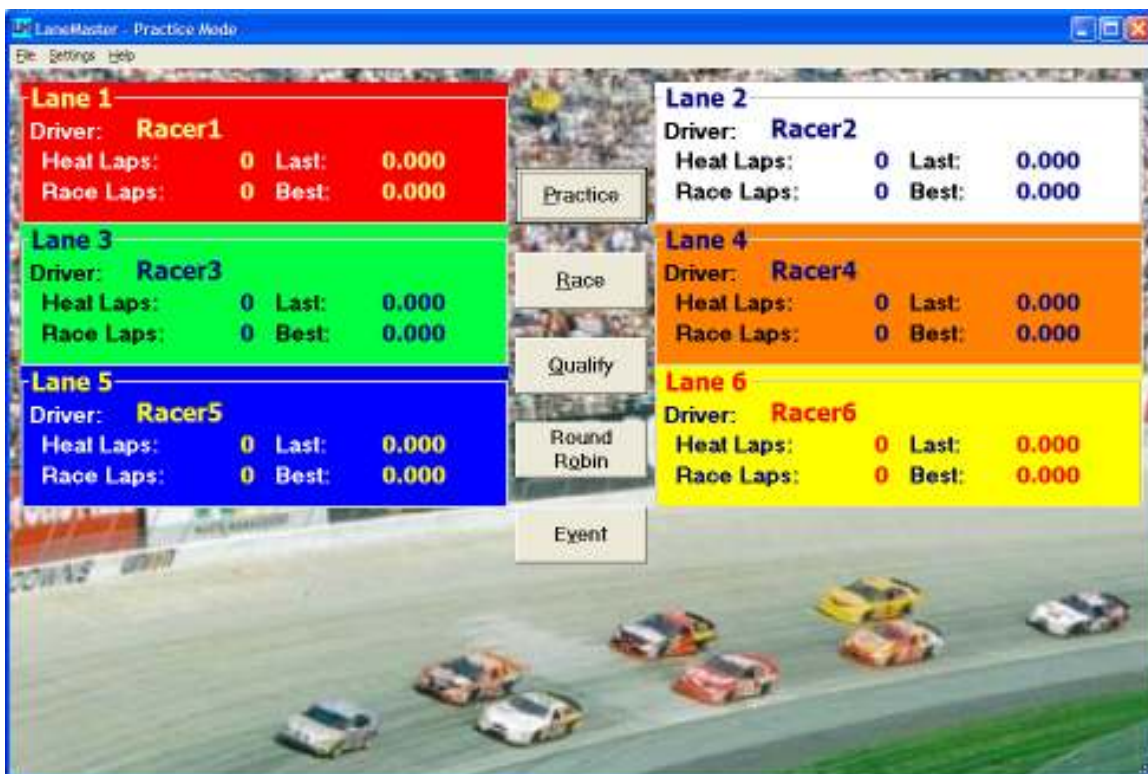
Creates an Event file specifically for one Round Robin race (without relying on automatic setup from Qualifying results). If you mix Round Robin races with

other races in order to speed up events, you can Qualify all racers together, then enter them into standard manual races and/or manual Round Robin races as desired. (NOTE: You must create Round Robin Events using Event Mode, NOT Race Mode – even if you only plan to run a single Round Robin race!)

Event

Event Mode

Click to select/run any Event Files you have created in Qualify or Round Robin Mode. You cannot enter Event Mode until you have created at least one Event File. Note that you can create as many Event Files as you desire prior to running any of them, or you may create and then run them immediately. Based on the type of file that was created, Event mode is used either to run elimination races (automatically updating the event ladder after each race and handling MoveUps) or to run one Round-Robin race. Event Mode will display results for each race, allow you to print them, and save all results for the Class in a final summary file, which you can view later using Race Reporter.



Practice Mode and the 'Hot Buttons':

Section 3. Track Setup

Before you begin: LaneMaster is a real-time application designed to run smoothly and continuously while racing is underway. While using LaneMaster, particularly on a slower PC, it is strongly recommended that you close other Windows applications (such as e-mail) that might periodically take processing power away from LaneMaster. While no race data will be lost, it is possible that screen updating (timers, results) might be slightly delayed while other applications have the operating system's focus. You should also set your "Power Options" (in Windows' Screen Saver dialog) for shutting off the monitor and hard drives to long intervals (one hour to never) to make sure they don't interrupt a race if you leave the computer unattended!

Note: Throughout this manual, the terms "click on" and "select" are used by default and interchangeably. While these are generally mouse-specific terms, they can also be thought of as 'use the tab or arrow keys to move the cursor there, then press "Enter"'.

To run LaneMaster, click "Start" > "Programs" > "LaneMaster" > "LaneMaster". (Unless you chose to install LaneMaster into a custom menu location.)

The Racing Environment

LaneMaster is completely customizable. Before you use LaneMaster, you must select the appropriate number of lanes and colors for the lanes on your track.

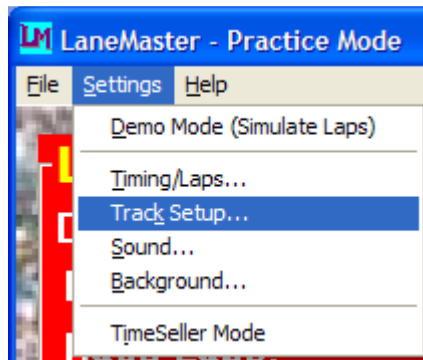
Select the mode or feature of your choice, then follow the on-screen instructions. If you select a menu item with "..." after it, LaneMaster will open a new window used to control that feature. Make your choices and then select "Ok " (or "Save") to return to the main screen. Most windows have a "Help" button, which will show you specific details about it. If you choose the wrong item or don't wish to make any changes, select "Cancel" or press the "Escape" key.

Track Setup

LaneMaster supports saving an unlimited number of custom track configurations. This allows a club to share LaneMaster among several locations, with saved details for each club member's track, or a shop owner to use one LaneMaster on multiple tracks. Of course, the LaneMaster unit can only be connected to one track at a time.

Settings such as Timing and Lane Rotation Style are more likely to be changed during day-to-day use of LaneMaster than, say, Number of Lanes or Lane Colors. While any of these settings can be changed anytime (except while a race or event is in progress!), we recommend that you save your default setup file immediately to avoid having to set them again later.

Lanes, Colors, Hardware and Other Settings



The Track Setup screen is used to configure number of Lanes, Lane Colors for those lanes, Rotation Style to use, and whether lanes should be referred to by number or only by color on printouts and screen displays.

A screenshot of the 'Track Setup - King Scorpion' dialog box. The dialog has a blue title bar and a close button. It contains several sections: 'Venue/Track' with text boxes for 'Name of your shop, club or home:' (containing 'Southpark Lanes') and 'Name of this track:' (containing 'King Scorpion Track'); a note about character limits; 'Lanes' with radio buttons for '8 Lanes' (selected), '4 Heats', '6 Lanes', '4 Lanes', and '2 Lanes', and a 'Set Lane Colors...' button; 'Rotation Style' with radio buttons for 'European (13578642)' (selected) and 'Straight (12345678)'; 'Round Robin' with checked boxes for 'Record Track Section' and 'Double Space Results'; 'Lane Labels' with radio buttons for 'Show Lane Numbers' and 'Color Only; No Numbers' (selected), with a note below; 'Hardware' with radio buttons for 'Phototransistor' (selected) and 'Reed Switch/Dead Strip', and checked boxes for 'Remote Track Call Switch Installed' and 'TimeSeller Installed', along with a 'Test TimeSeller' button; and a 'Default Number of Copies to Print:' dropdown set to '0'. At the bottom are 'Save', 'Cancel', and 'Help' buttons.

Setting the Number of Lanes

LaneMaster supports tracks with 2, 4, 6 or 8 Lanes. The number of lanes selected determines the number of heats in each race except, when desired, LaneMaster can be configured to run only 4 heat races on an eight lane track.

4/8 Mode

Four heats on eight lanes is known throughout this manual as "4/8" mode. (See "Lane Rotation Scheme", p.42, for more info.)

(Note: there is no capability to "shut off" an unused lane for tracks with an odd number of lanes.)

Rotation Style

Choose between European or Straight Rotation.

For more details on these choices, see "Lane Rotation Scheme", p.42.

Round Robin

Select whether to record the track sections from which Round Robin racers leave the track at the end of their rotation.

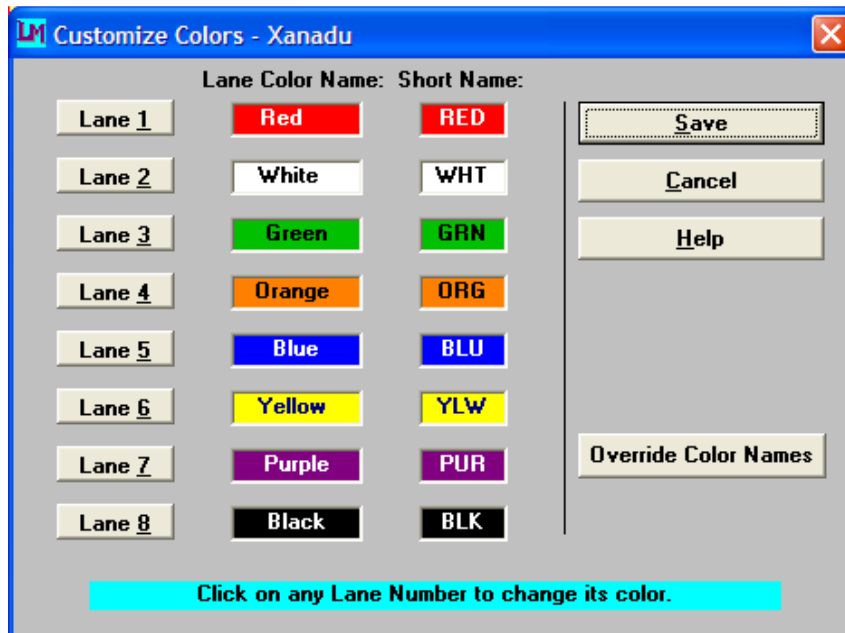
For more details, see "Round Robin Mode", p.59.

Lane Labels

Select whether LaneMaster will display numbers for lanes, or use only colored blocks as labels when Practice, Qualifying and Race results are displayed in Output View and in the on-screen Rotation Guide. This setting also controls whether LaneMaster prints lane numbers or lane colors on reports. Numbers will help color-blind people use LaneMaster, but can be confusing if you don't actually have the lanes numbered!

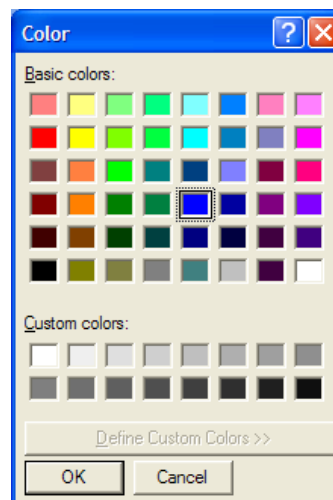
Setting the Lane Colors

In the “Track Setup” window (above), click “**Set Lane Colors...**”



To set the individual lane colors, you can either click on the Lane number button or press the number of that lane on the keyboard...

...then click on the desired color in the Color window:



The Color window allows you to choose from 48 different colors for each lane.

Override Color Names

If you wish, you may change the written name or abbreviation used for the colors by clicking on Override Color Names. This is helpful if you would like reports and displays to list very specific color names or in another language, for example. Please note that “ShortName” (abbreviated name for the color) is limited to 3 characters.

When finished, select “Save” to save the new color scheme or “Cancel” to leave it unchanged.

Hardware Settings in the Software

Lap Trigger Type

Select "Phototransistor" if you are using the LaneMaster Phototransistor Kit. This setting triggers a lap event when the connection (Infrared beam) is **broken**. Select Reed Switch/Dead Strip for any mechanical setup where the lap event is a **made** connection.

Remote Track Call Switch

If you have installed one or more Remote Track Call buttons (see Section 5), click on the "Remote Track Call Installed" checkbox to enable this feature. DO NOT turn on this feature if you have not specifically wired your track for it - LaneMaster will not function correctly!

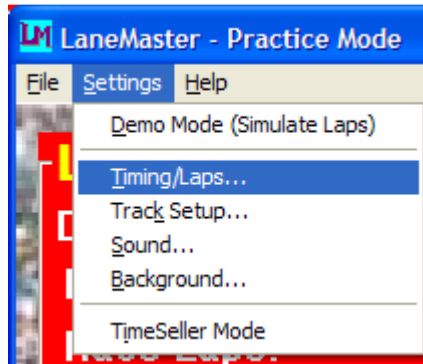
Time Seller

TimeSeller allows a shop owner to rent out lanes for race practice. This option should only be turned on if TimeSeller is actually installed. Note: instructions for installing and using TimeSeller are provided with the TimeSeller unit itself.

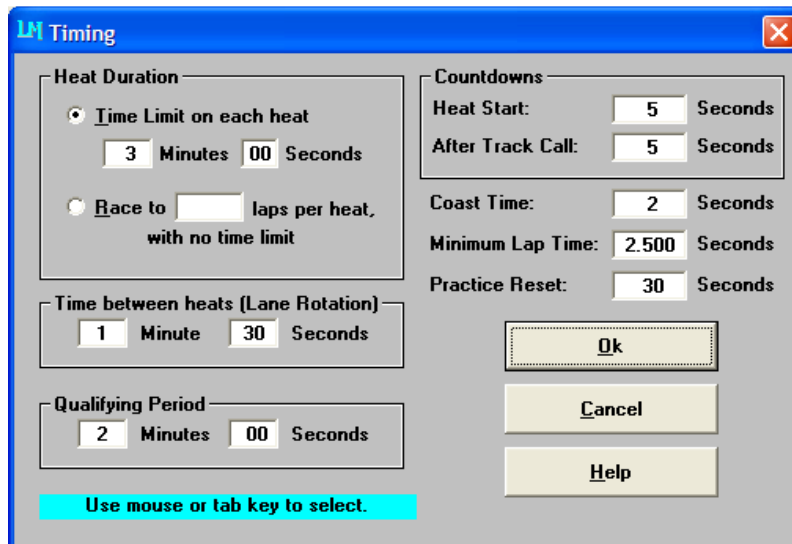
Default Number of Printed Copies

This is the number of copies that will automatically be *suggested* each time you print race reports. If you decide that you want a different number of copies for any reason at the time of printing, you can always override it then. If you don't have a printer connected, you should set this to "0", but if you do have a printer, we strongly recommend that you set this to at least "1". That way, you can't accidentally skip through the opportunity to print race results by accidentally pressing the "Enter" key one time too many!

Timing / Laps



LaneMaster offers complete control over the precise timing requirements of Slot Car Racing.



Use the tab key or mouse to select the value you wish to change and type in a new value. Click “Ok” to make the changes effective or “Cancel” to leave them unchanged. After clicking “Ok”, LaneMaster will ask whether the new Timing settings should also be saved as default in the profile for the current Track Setup. To set these values as default, click “Yes”.

The timing defaults are 3 minute Heats, 90 second Lane Rotation periods, 60 seconds to Qualify, and 10 second Countdowns. You can customize these to whatever you want, up to these maximums:

Heats	240 minutes (four hours!)
Countdowns	15 seconds
Rotation and Qualifying	5 minutes

Note: LaneMaster also limits laps to 99,999 per racer.

"Lap Goal Mode"

To run a race to a target number of laps (i.e. "The Pacific Northwest 400"), you should divide the total number of laps in the race by the number of lanes on your track. In other words, to run a 1000 lap race on an 8-lane track, select 125 lap heats. Please note that the final target total (i.e. 1000, 500, etc.) must be an even multiple of the number of lanes on your track. In other words, you can't run a 500 lap race on a 6 lane track (since $500 / 6 = 83.333$), but you could run a 600, a 450 or even a 504 lap race! During "Lap Goal Mode" LaneMaster will tell you the amount of time that has elapsed in each heat, rather than the time remaining, because there is no time limit in "Lap Goal Mode".

Countdowns

The length of the Countdown shown on the screen before the power comes on and LaneMaster begins to count laps. "Heat Start" is the length of Countdown at the beginning of heats. "After Track Calls " sets the length following a track call before the race resumes. If you don't want *any* Countdown at all after Track Calls, so that power and counting resume immediately, set this value to "0".

Coast Time

"Coast Time" is how long the lap counter will remain 'live' after the end of each heat (0 - 2 seconds) to allow for cars coasting across the finish line.

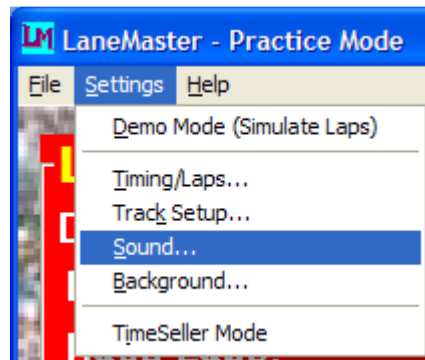
Minimum Lap Time

Minimum Lap Time is a very important item, which should be set slightly *lower* than the *fastest* possible lap on your track for that class. If used correctly, it can eliminate 'rider' laps. The setting can range from 0.000 to 9.999 seconds. Be careful with this setting... laps faster than your minimum will NOT register! If your minimum is set to 2.3 seconds, a lap of 2.299 or faster **will not be counted**. But by using this feature, it is very unlikely that cars will ever register unearned laps when another racer jumps into their lane!

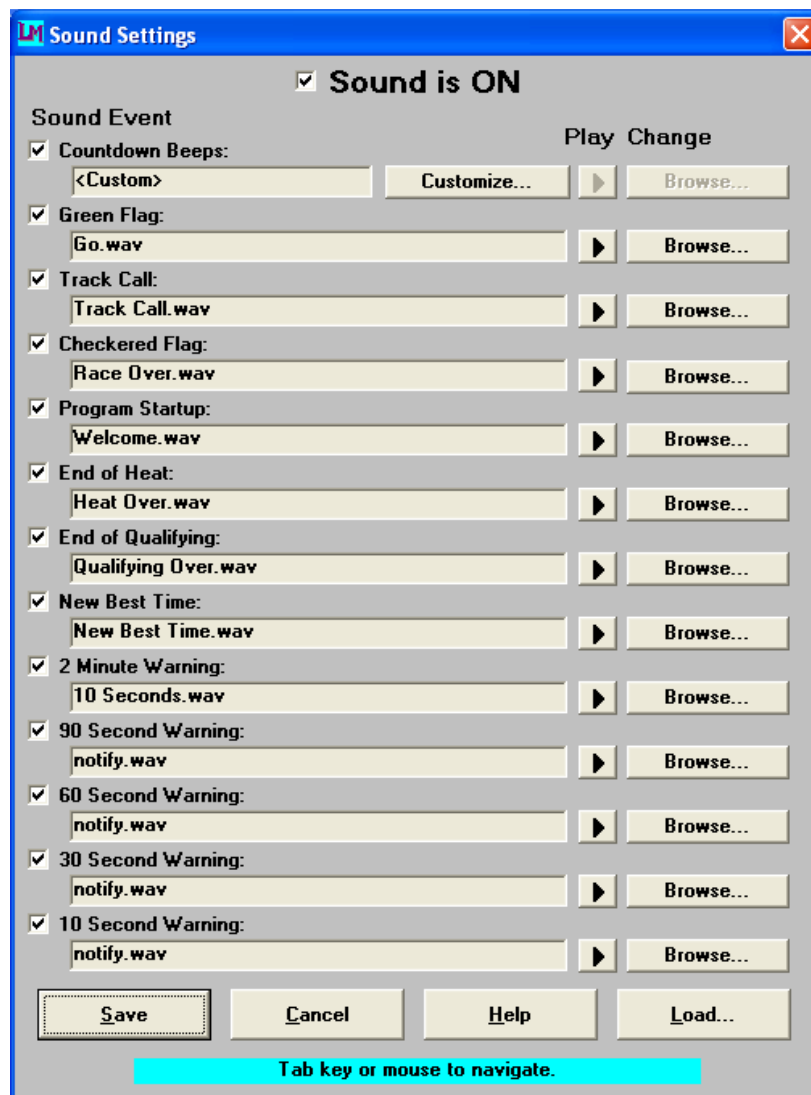
Practice Reset

In practice mode, it is very convenient for the racers to be able to reset their lanes, so that they can compare different cars or different setups on the same car. During practice mode, if no laps are completed for the amount of time you set on Auto Reset, the lane will automatically reset itself. If you never want the lanes to reset automatically, set this time to 0.

Sound



LaneMaster allows you to customize the sound profile for each Track Setup or use the default sounds (which are all standard Windows sounds).



Sounds can be turned on or off by checking or unchecking any of the various LaneMaster events, and you can assign any sound file to each of them individually.

To change a sound for any event, click on “Browse...” and navigate to and select the sound file of your choice.

To hear the sound you have selected, click on  next to it.

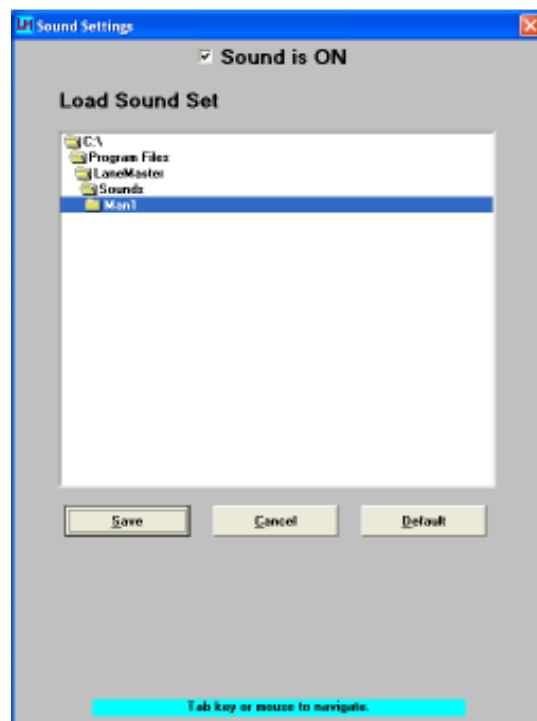
When you click “Save”, settings for Sound are automatically saved as default to the current Track Setup. To leave Sound unchanged, click “Cancel”.

Sound Sets

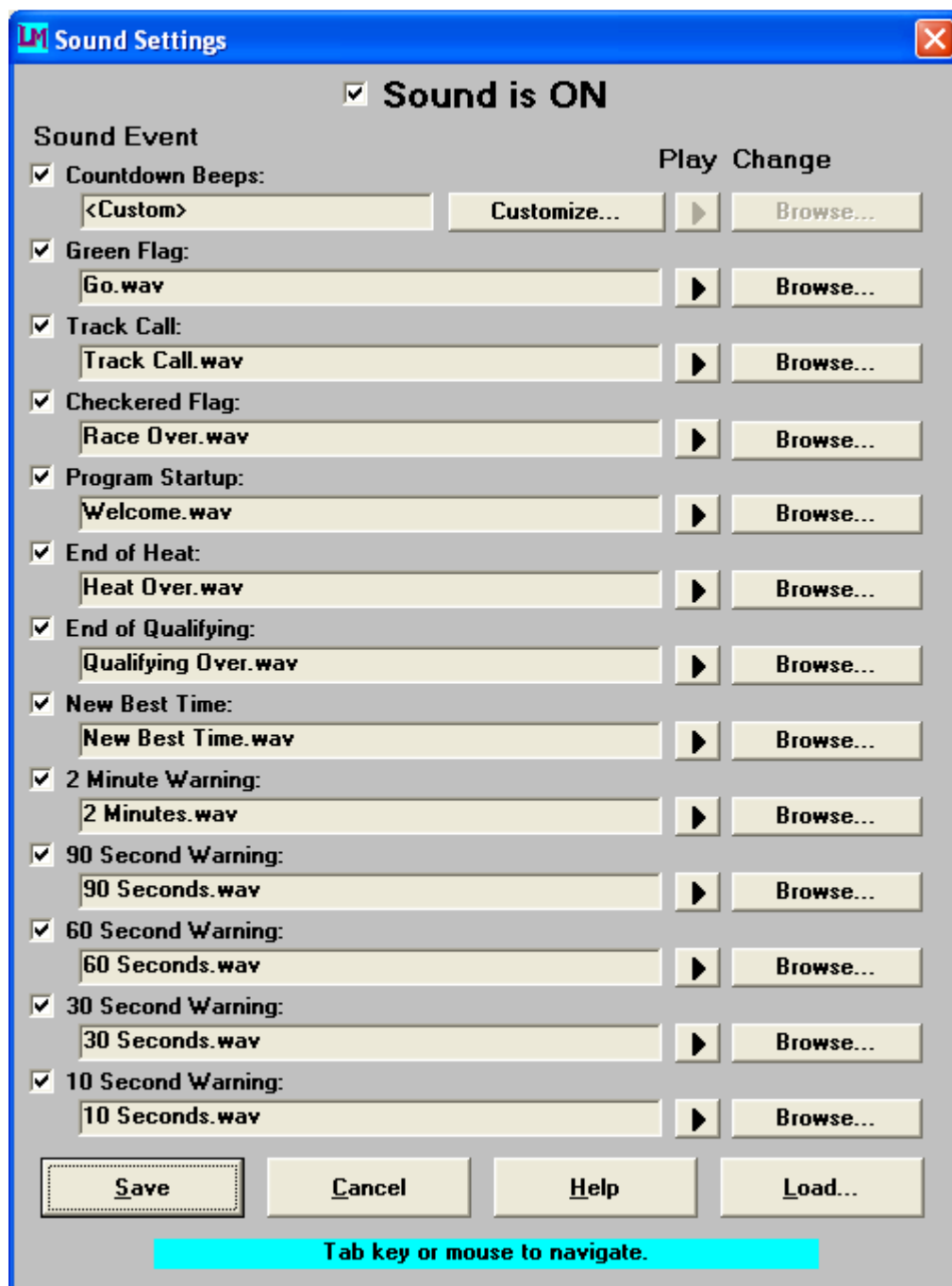
If you wish to load an entire set of sounds at once, click on “Load...”

LaneMaster comes with one set of optional sounds (“Man 1”). But if LaneMaster users wish to share custom sets of sounds, they only need to copy and paste an entire directory with all the sounds in it from one machine to another. That directory should be created as a subfolder to the “C:\Program Files\LaneMaster\Sounds” directory, and all desired custom sounds must be named exactly the same as the files in the “Man1” directory. If there are any events for which files are *not* found in that directory, LaneMaster will display a warning message, and the sound for that event will remain unchanged.

After clicking “Load...” just select the directory with the new sound set...



...and all files that are present will be loaded at once:



After loading a Sound Set, you can adjust any individual sounds and whether or not sound is played for those events, as described above.

Adjusting Output View Fonts and Font Sizes

LaneMaster allows you to adjust the fonts used for Output View so that you can customize the look.

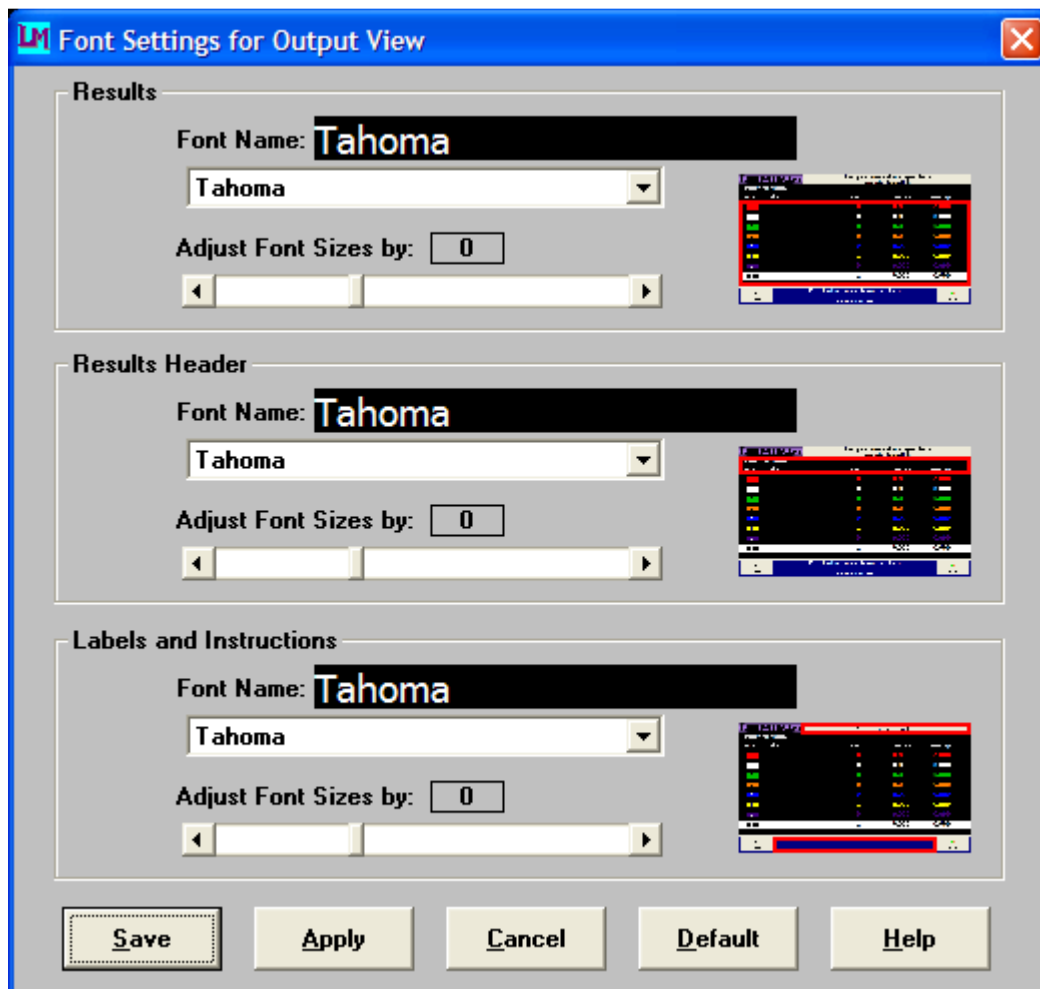
To adjust the fonts and their sizes, click on:

Practice

Then, click on:



Or you can just click “Settings > Fonts in Output View...” from the Main Menu.

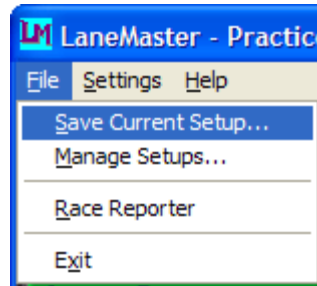


Use the drop down lists to select from all the fonts available on your computer for the areas highlighted in the diagrams. Use the “Apply” button to preview the new settings. If the characters are too large or too small to fit comfortably on the screen, change the font sizes as needed. When you are satisfied with your selections, click “Save”. Clicking “Cancel” will revert all settings to what they were before opening the Font Settings window. Clicking “Default” will set all fonts to Tahoma and their standard sizes, as shown above.

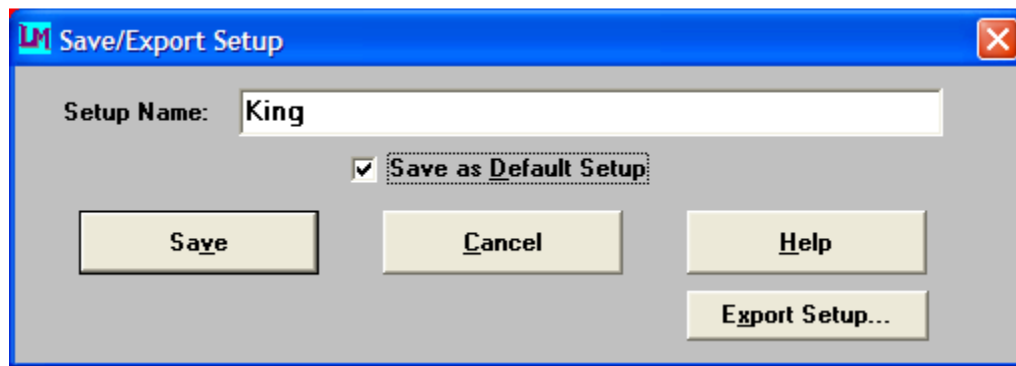
Managing Track Setup Files

Saving the current Track Setup

These settings should now be saved as your default setup. Select “File” > “Save Current Setup” from the main menu.



The Save/Export window allows you to name and save your new default setup by typing in a name, clicking on the "Save as Default Setup" button and then clicking "Save". This name is used only as a label for the setup, and will NOT appear on any reports; we recommend naming it after the specific track or track owner for easy reference.



If you will be using LaneMaster with more than one track, you can save and load other custom setups with just a few clicks. To save additional custom setups for other tracks, first click on “Save Current Setup...” and save the current setup under a new name. Then set the colors, number of lanes and other specific features for the other tracks. As you click on “Ok” for each set of changes, LaneMaster will ask if you want to save the changes to your new setup. Say “yes” to save the changes.

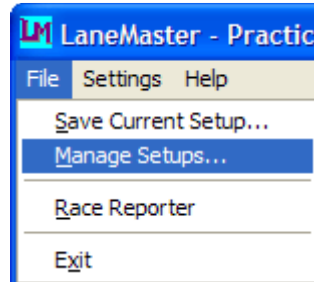
To make any setup the default, just check the box and re-save the setup.

Exporting the Current Track Setup

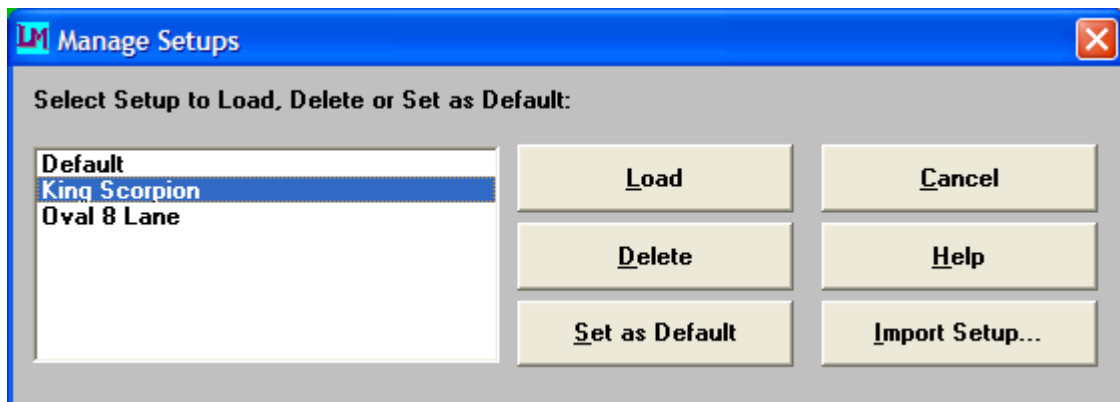
If you use LaneMaster on more than one computer, or if you are changing computers, you may want to transfer your Track Setup(s). To save your settings in a .reg (Windows Registry) file to reuse/transfer the details of your Track Setup, click “Export Setup...”, browse to where you want to save the file, and click “Save”. Importing .reg files is covered below.

Loading Track Setup Files

To load any setup on your computer, Select “File” > “Manage Setups” from the main menu.:



The Manage Setups window allows you to load, delete or import any existing Track Setup:



When you load a setup, it does not change your choice of default setup.

Set as Default

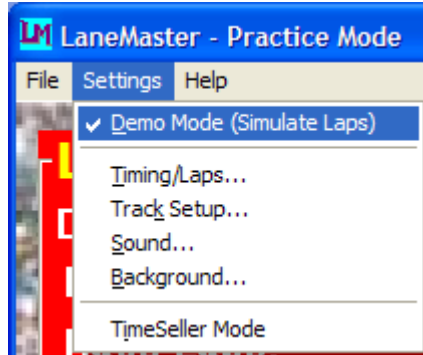
To designate the default Track Setup for this computer, click “Set as Default”. You can load any setup after LaneMaster is open, but this selection determines which setup LaneMaster will load when it is first started.

Importing a Track Setup

To import a Track Setup, click “Import Setup...”, then navigate to the .reg file you wish to import and click “Open”. This will add the imported setup to the list of Setups which you can load.

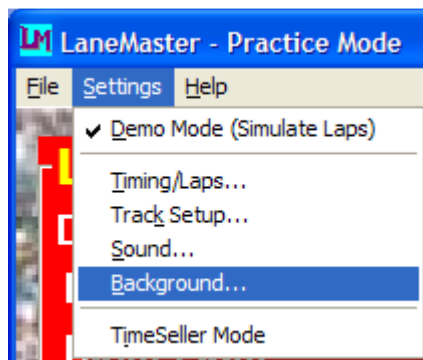
Demo Mode

To turn this feature on or off, click on “Settings” > “Demo Mode”. Note that when the LaneMaster hardware is not attached, LaneMaster will ONLY run in Demo Mode.



If it is checked, then Practice, Qualifying and running a race will show lap and time results based on randomly simulated lap times. This is useful to get familiar with LaneMaster if you have not yet installed the hardware, or if you do not currently have it hooked up to a track.

Setting the Background



You can customize the background of the main “Data View” window by selecting the picture of your choice, a solid color (no picture) or the default background (shown here):



To change the picture, “Browse...” to the desired picture file, select either “Stretch to Fit” or “No Resize”, then click “Ok”. To remove the picture and use a solid color background, click “Color - No Pic”, and select the desired color.

Note that the selected background is saved as part of the Default LaneMaster setup and is NOT customizable per Track Setup.

Now that LaneMaster is set up the way you want it, it's time to start using it....

Section 4. Running LaneMaster

Practice Mode

LaneMaster's 'normal' (default) state is Practice mode. When the program first starts, just press "Enter" (since 'Practice is already highlighted) if you wish to switch to Output view and enter Practice mode. In Output View under Practice Mode, lap times and best times are displayed by lane. A *new* Best Time on any lane will result in a beep, so if you are using LaneMaster alone with no one to watch the screen, you can still tell if you are improving. To reset the laps and times on any lane to "0", press the number (1-8) of that lane. To exit Output View, press the Escape Key or click "Exit". When switched into Data View, power remains on, laps and times are still registered, and results will be up to date upon returning to Output View by clicking "Resume". To shut off power, stop capturing results and set all values to 0, click "Reset".

While in Data View under Practice mode, you can easily change any settings or save or load a Track Setup, using the main menu. Just click on "File" or "Settings", then the file action or setting of your choice. To enter Race, Qualifying, Event or Round Robin mode, click on the corresponding "Hot Button".

Entering Racer Names

There are three ways to enter Racers' names into their desired lanes while you are in Data View.

Method 1:

Click on the box where the driver's name is displayed for any lane. This will bring up a small window showing the name currently entered (if any) for that lane.



Type the new name and press enter or click "Ok", and the new name will be placed into that lane. Clicking "Delete" blanks out the old name. Click "Cancel" to leave the old name as it was.

Method 2:

Press any number on your keyboard from 1 to 8 (or the highest-numbered lane if you are set for 2, 4 or 6 lanes). This brings up the same small window as shown above.

Method 3 (recommended):

Click on the "Race" button to open the "Single Race Mode" window:

First select the desired lane by clicking on any of the colored lane labels, or by moving to one with the tab key, or by pressing "Alt." + the desired Lane Number. If the name of the driver you want to add is in the list on the left (all the racers that have ever raced on your track), double-click that racer's name to add them to the selected (flashing) lane. If they are not in your list, type the Racer's name directly into the box. This will add them to the lane *and* add them to the list of previous drivers. To remove any name from the list of previous drivers, click the name and press "Delete".

Note that all name lists in LaneMaster are sorted by each person's FIRST name, then last name.

Press the "Ok" button to continue on and run the race. If you press "Cancel" it will take you back to Practice Mode, but all the names you just selected will still appear correctly in the lanes to which you have assigned them.

Simple Race Mode

To run a very simple, casual race for a set amount of time or to a certain number of laps without rotating lanes, check the box to turn on "Simple Race Mode". Then select the button for the type of race, laps or time. Finally, set the lap target or time limit using the scroll bars.

Race Mode

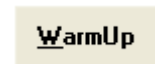
Running a race

To run an informal (single) race, select the "Race" button and enter the names of the racers and their desired lanes, as described under Practice Mode, Method 3 (previous page). If you don't enter a name for any lane and just leave "Racer<x>" in the window. When you have finished entering names, select "Ok" to return to Data view. LaneMaster will turn off power to the track.

If you want to run a 4-heat race on an 8-lane track, select "Settings" > "Track Setup..." and click the "4 Heats" checkbox to "On". For 2, 4, and 6 lane tracks, this feature is not available, and races will always have as many heats as lanes.

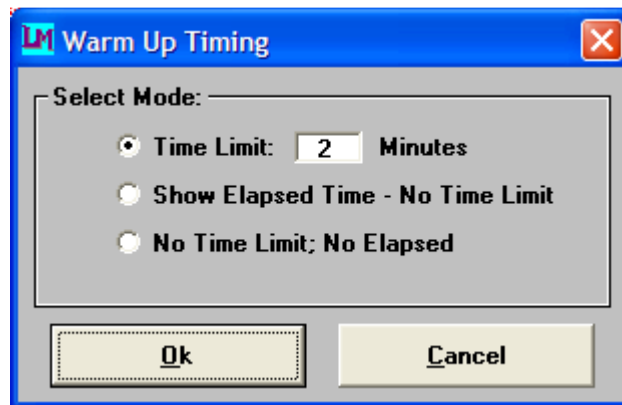
If Racers wish to see the Lane Rotation Chart before choosing a lane, click on "Show Rotation".

You may then either begin the race immediately by clicking "Countdown" or you can click to select "WarmUp" Mode:



Warm Up Mode

Selecting "WarmUp" will allow racers to practice and will display their laps and lap times, but data generated will not be saved or used in the race.



There are three options when using "Warm Up" mode:

- "Time Limit: 'x' Minutes" means that LaneMaster will automatically power off the track and end Warm Up after the desired number of minutes have elapsed. Just type the desired number of minutes in and press enter. The default is 2 minutes for Warm Up, but you can make this as long or short as you want. In fact, if you want Warm Up to last 90 seconds, you can type "1.5" into the minutes field.
- "Show Elapsed Time - No Time Limit" means that LaneMaster will display how much time has passed since the Warm Up started but will still require the Race Director to end the Warm Up manually and move to Race Mode.

- "No Time Limit; No Elapsed" means that LaneMaster will remain in "Warm Up" mode until the Race Director manually stops it and begins the race.

Countdown

Beginning the race

When you are ready to begin the race, the racers put their cars on the track in the lanes that they selected. Click on the "Countdown" button or press "Enter". LaneMaster will then count down the number of seconds that you selected for Countdowns (in the "Timing/Laps..." window), displaying extremely large numbers on the screen for easy viewing by all racers. You can press the spacebar during the countdown to pause it, but when you restart it, it will be from where it left off - it will not restart the countdown from the beginning.

When the countdown is over, track power will be turned on automatically and laps and lap times - Latest and Best - will be displayed and recorded.

Note: LaneMaster never shows a lap time for the first lap recorded in a heat, since the first lap (from the starting position to the lap detector) is usually not a complete lap and would incorrectly report a very short Best Lap Time!

During the Heat

Output View (the leader board) shows the current heat number, the time remaining and current results for all racers in order. (LaneMaster displays elapsed time rather than time remaining if you are racing to a lap goal rather than using timed heats.)

LaneMaster Southpark Lanes - King Scorpion Track					
LaneMaster - Race Mode					
Heat: 3		Time Remaining:		2:51	
Lane	Driver	Race	Heat	Last Lap	Best Lap
4	Robert Heinlein	70	2	3.330	3.330
3	David Brin	68	2	2.823	2.823
8	Isaac Asimov	65	2	2.765	2.765
2	Piers Anthony	64	2	3.548	3.548
6	Poul Anderson	63	1	0.000	0.000
5	Arthur Clarke	60	2	4.215	4.215
1	Greg Bear	59	2	2.543	2.543
7	Gordon Dickson	59	2	3.468	3.468

Track Call
Press the Space Bar for a Track Call.
Exit

Notice that the racer with the most laps for the *whole race* (not the heat!) will be shown on the first line, and all other racers are shown in descending order below

the first racer. If two racers have the same lap total, the higher one in the list is always the first one to reach the new total. In other words, if two racers are on lap 24, if the lower one gets to 25 first, he gets moved up the list, ahead of the other racer, who then drops back. As the race progresses, this leader board is updated four times per second, but times are accurately recorded to the precise millisecond.

Lane Rotation Period

At the end of each heat, LaneMaster shuts off power and displays the results for that heat, total laps for the race so far, lap times and current order of the racers. At the top of the screen, "Lane Rotation Time Remaining" is displayed. The next heat starts when Lane Rotation Period time (as set in "Timing/Laps...") expires. You'll notice that some heat results flash during Lane Rotation. These are the racers whose cars crossed the lap counter during Coast Time. This way you will always know for sure whether the racer got credit for that last lap or not.

LaneMaster

Southpark Lanes - King Scorpion Track

Lane Rotation

After Heat: 2

Time Remaining: :06

Lane	Driver	Race	Heat	Last Lap	Best Lap
6	Robert Heinlein	68	16	3.015	2.515
1	David Brin	66	15	3.209	2.832
7	Isaac Asimov	63	14	3.139	2.717
8	Poul Anderson	62	14	3.381	2.554
4	Piers Anthony	62	15	4.029	2.659
3	Arthur Clarke	58	10	3.785	2.608
2	Greg Bear	57	15	3.452	2.646
5	Gordon Dickson	57	15	3.420	2.645

Pause

→ 1 → 3 → 5 → 7 → 8 → 6 → 4 → 2

Edit

Press Enter to edit heat results.

Data corrections

If necessary, you can change results for the just-completed heat. Changes should not be necessary unless one car jumped lanes and missed registering a lap or laps on that racer's lane. (If your Minimum Lap Time is set accurately, this problem should be very rare.) To change the heat total for any lane, enter Data View by pressing "Enter" or clicking "Edit". Then press the number on the keyboard that corresponds to the lane with the result you wish to change. This will bring up a small window showing the racer's name and lane and how many laps were recorded during that heat.

Correct Heat Total - Lane 1

Driver: **Poul Anderson**

Laps recorded for last heat: **5**

Enter laps actually completed:

Ok **Cancel**

If you want to change the number, just type in the correct number of laps, then press "Enter" or click "Ok". If you decide not to change it, click "Cancel".

Lane Rotation Scheme

At the bottom of the screen, the selected **rotation scheme chart** is shown, so that racers will know which lane they will race on in the next heat.



The Rotation scheme is read from left to right and each racer moves from their present lane to the next lane to the right during the Lane Rotation. The racer in the last lane listed on the right moves all the way back to the first lane listed on the left (except in Round Robin mode, which will be described later). The lanes are shown as colored blocks or numbers, depending on the setting you have chosen in "Track Setup..." > "Lane Labels".

LaneMaster offers two rotation schemes, **European** (default) and **Straight**. Using European rotation, the order is 1-3-4-2, 1-3-5-6-4-2, or 1-3-5-7-8-6-4-2 for four, six and eight lanes respectively. Using straight rotation, the order is 1-2-3-4(-5-6(-7-8)) for four, six, or eight lanes. If you use Four Heats / Eight Lanes, (also known as "4/8 mode") the rotations are 1-3-5-7 and 8-6-4-2 or 1-2-3-4 and 5-6-7-8 (separately).

Fast Fwd

The racers should have their car on the track in their new lane and be ready to race when the Lane Rotation period ends. If all racers are ready before time has expired, you may start the next heat early: Press "Exit" to bring up the Data View screen, then select "Fast Fwd". The countdown will then start immediately.

At the end of the Rotation Period, cumulative data for all racers is moved to their new lanes, the results of the previous heat are stored as a file on your hard drive, and the next heat begins. Each race consists of as many heats as there are lanes (except in "4/8" mode (see above) or Round Robin, as detailed below). In other words, on a six lane track, there will be six heats. Racers continue to race and rotate until all heats are completed.

Track Calls

If a Track Call is needed during the race, you can pause LaneMaster by pressing the spacebar (or by pressing the Remote Track Call Switch). This will automatically cut power to all lanes and pause the heat timer. An elapsed time counter will appear on the screen to show you how long the Track Call has been going on.

LaneMaster		Southpark Lanes - King Scorpion Track			
		LaneMaster - Race Mode			
Heat: 1		Time Remaining:		:37	
Lane	Driver	Race	Heat	Last Lap	Best Lap
7	Piers Anthony	7	7	3.211	2.913
3	Gordon Dickson	7	7	3.054	2.441
4	Greg Bear	7	7	2.700	2.700
6	Orson Card	6	6	5.488	2.587
5	Isaac Asimov	6	6	3.414	2.664
1	Arthur Clarke	6	6	2.985	2.527
2	David Brin	6	6	3.536	2.606
8	Poul Anderson	3	3	9.351	2.840
Resume		Track Call Elapsed Time :06			
		Space Bar to Resume - Escape for Data View			
		Data View			

The Race Director ends the track call (continuing the heat) once the problem is corrected. When the Track Call ends, there will be a countdown (for the number of seconds set for "Track Call Countdown" in the "Timing/Laps..." window) before the heat continues. Regardless of whether you start a Track Call from the Remote Track Call Switch or the keyboard, you **must** use the spacebar to restart!

End of the Last Heat - Coast Time - Unofficial Results

At the end of the last heat, LaneMaster will alert you that Coast Time is underway (since there is no lane rotation period after the last heat!). After the Coast Time has expired, the "Unofficial Results" are displayed on the screen.

LaneMaster		Southpark Lanes - King Scorpion Track			
		LaneMaster - Race Mode			
Lane	Driver	Race	Heat	Last Lap	Best Lap
4	Greg Bear	46	5	4.857	2.562
2	Poul Anderson	46	6	2.959	2.873
3	Robert Heinlein	44	5	3.301	3.301
6	David Brin	43	4	3.135	3.031
5	Piers Anthony	42	6	3.290	2.843
7	Arthur Clarke	40	5	3.090	2.766
1	Isaac Asimov	38	6	3.329	2.462
8	Gordon Dickson	37	5	4.056	2.940

Track Call

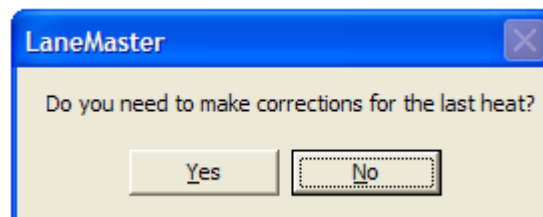
Unofficial Results
Press Enter to edit and/or continue.

Ok

These results are *unofficial* because you have not yet had the chance to fix any miscounts that may have occurred in the last heat.

Editing the Last Heat

Once you click "Ok" on the Unofficial Results Screen, LaneMaster then asks if you would like to edit the data for the final heat.



If you select "Yes", a new window will open, showing racer names and the laps recorded in the final heat.

Results of Last Heat

Lane	Driver	Heat Laps
1	Isaac Asimov	6
2	Poul Anderson	6
3	Robert Heinlein	5
4	Greg Bear	5
5	Piers Anthony	6
6	David Brin	4
7	Arthur Clarke	5
8	Gordon Dickson	5

Ok

Cancel

Press the lane number
or click driver's name
to edit lap total for
final heat.

Press the number of any lane or click on the racer's name to adjust that racer's results. Once any necessary changes have been made, select "Ok". At that point (or if you answered "No" to corrections in the first place), the *Official* final results for the race will be displayed on the screen, showing racer names (in order of finish), their total laps for the race, and their laps for each heat of the race.

LaneMaster

Southpark Lanes - King Scorpion Track

Driver	Total Laps	1	2	3	4	5	6	7	8
Greg Bear	46	5	6	6	6	6	6	6	5
Poul Anderson	46	5	6	6	6	6	6	5	6
Robert Heinlein	44	4	6	6	6	6	5	6	5
David Brin	43	6	6	6	6	6	6	3	4
Piers Anthony	42	6	5	5	4	5	5	6	6
Arthur Clarke	40	6	5	5	4	5	5	5	5
Isaac Asimov	38	5	2	5	3	5	6	6	6
Gordon Dickson	37	4	3	5	6	6	5	3	5

Print

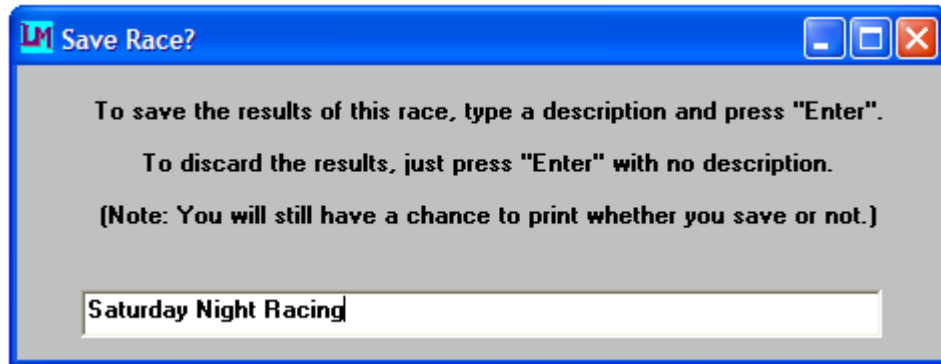
OFFICIAL RESULTS

Next

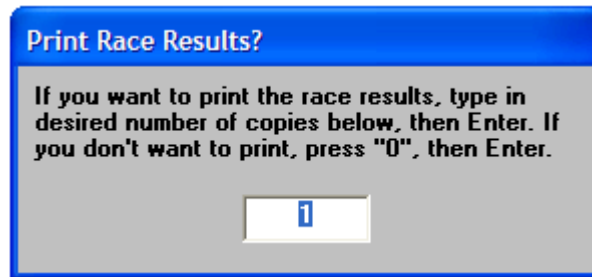
Press Enter to Print, Save, etc.

Printing and Saving Race Results

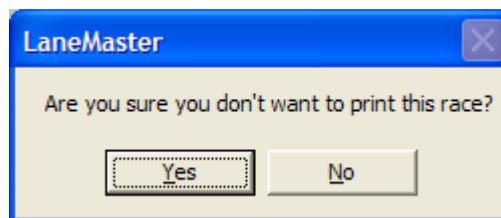
You can click "Print" at this point to print a screen capture, but be aware that this method uses a LOT of ink (printing the black background) and probably should only be used on rare occasions. Once you press "Enter" or click "Next" to close this display, you will have the chance to save the race results...



...and then print them in a much more printer-friendly format:



If you select "0" copies, LaneMaster verifies whether you really want to skip this opportunity to print the race:



If you click "Yes", the race is complete and you are returned to Data View. If you click no, you are asked again how many copies to print.

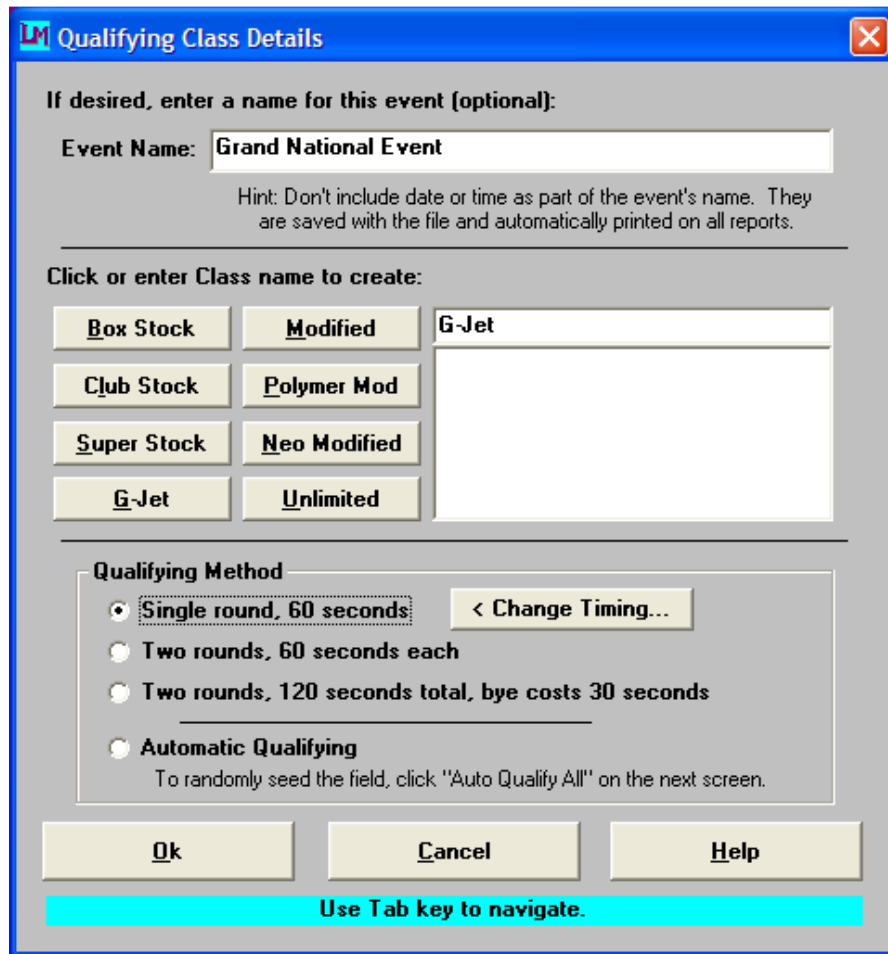
Next Race

You are now ready to start another race with the same entrants, if you'd like, just by clicking the "Countdown" button.

Qualify Mode

Qualify Mode allows you to begin creating an Event by qualifying racers using the Qualifying Method of your choice. Each racer can get one or two timed rounds, or USRA style (two minutes with a bye) and LaneMaster will use their best three times to rank the Qualifiers. If you prefer, you can skip the actual process of qualifying each racer by choosing "Automatic Qualifying", but to create the event file you still must set up the list of those who will participate.

Begin by creating a Qualifying Class, the group of qualifiers who will participate within this class (usually car type) in this event.



The image shows a software dialog box titled "Qualifying Class Details". It has a blue title bar with a close button (X) in the top right corner. The main area is light gray. At the top, it says "If desired, enter a name for this event (optional):". Below this is a text field labeled "Event Name:" containing the text "Grand National Event". A hint text below the field reads: "Hint: Don't include date or time as part of the event's name. They are saved with the file and automatically printed on all reports." Below the hint is a horizontal line. Underneath, it says "Click or enter Class name to create:". There is a grid of buttons: "Box Stock", "Modified", "Club Stock", "Polymer Mod", "Super Stock", "Neo Modified", "G-Jet", and "Unlimited". To the right of these buttons is a large empty text field. Below the grid is a section titled "Qualifying Method" with four radio button options: "Single round, 60 seconds" (which is selected), "Two rounds, 60 seconds each", "Two rounds, 120 seconds total, bye costs 30 seconds", and "Automatic Qualifying". To the right of the first option is a button labeled "< Change Timing...". Below the "Automatic Qualifying" option is a small text note: "To randomly seed the field, click 'Auto Qualify All' on the next screen." At the bottom of the dialog are three buttons: "Ok", "Cancel", and "Help". A blue bar at the very bottom contains the text "Use Tab key to navigate."

Event Name

Type in the name of the event that you are hosting, such as "Saturday Night Races" or "The Western States Championship", etc.

Class Name

Next, create or modify a Class. Most of the time, you will create a Class by selecting a standard Class name from the ones listed, by just clicking on the name of the Class. If you would like to create a Class with a non-standard name, just type the name into the text box. If an existing Class name is shown in the input box, just start typing... your newly created Class name will not interfere with any existing Classes.

Adding Qualifiers to an Existing Class

If you have already created other Qualifying Classes but did not finish Qualifying them, the names of those Classes will appear in the list. To continue adding qualifiers to an existing class (if you haven't created the Event file yet), just select that class name by using the arrow keys and pressing "Enter" or double-clicking on the desired class name. Classes that have already gone through the 'Create Event' process (see below for details) are no longer available to modify. However, if you exited qualifying earlier *without* creating an Event file for a class, you will be able to continue to add qualifiers to that existing class.

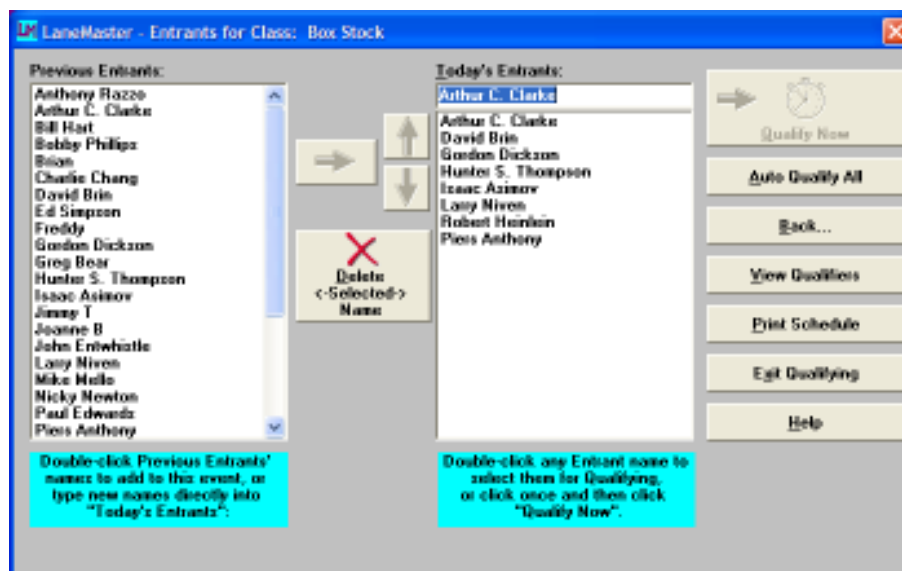
Qualifying Method


Select the Qualifying method that you want to use:

- Single Round – Each Qualifier gets one chance to Qualify for the amount of time set in "Timing/Laps...". ("< Change Timing" to override the default.)
- Two Rounds, one minute each – (self-explanatory)
- USRA style: Two total minutes - the first round is whatever time the Entrant uses before he calls for a 'bye'; the second round is the remaining time after the first round, minus 30 seconds for the bye. In other words, if the Entrant turns laps for 15 seconds, and then calls for the bye, he will have 75 seconds left for the second round (120 seconds - 15 used - 30 for the bye = 75). Note that if you select USRA style, it ignores the Qualifying Time set in "Timing/Laps..." and will always start with 2 minutes.
- Automatic Qualifying – On the next screen, you will have the option to click "Auto Qualify All" to skip Qualifying and randomly seed the field.

Inputting Entrant Names

Once the Class is selected or created, and the qualifying method selected, click "Ok". The Entrant screen appears. For *easiest* management of Qualifying, you should select or input the names for all entrants in the class before you start Qualifying them, but that is not required; you can also add names one at a time as you go along.



Note that as each name is entered, it is placed at the *top* of the list, moving the other names down. So the first name that you enter will be the last name **suggested** to qualify and vice versa. (Note that you are not *required* to qualify the racers in any fixed order; you are free to choose any remaining entrant in the list to qualify at any time *in the first round* just by clicking on their name or moving them up the list using the “up” and “down” arrows next to the “Today’s Entrants” list.) If you prefer, you can also enter each entrant's name and qualify them immediately, rather than inputting the entire list all at once. The names of all entrants who race on your track are automatically saved by LaneMaster in the 'Previous Entrants' list. (Note that they are displayed in alphabetical order by first name.) If any Previous Entrants are entering into today's Event, just select their names from the Previous Entrants list using the arrows and the "Enter" key or by double-clicking on their name. You can also click  to copy the one selected from Previous Entrants to Today’s Entrants.

Tip: To avoid all the entrants asking you when their it's their turn to Qualify, you can click “Print Schedule”, which will print the “Today’s Entrants” list in the order that they should plan to qualify (unless you choose to allow them to qualify out of order later, which is your option).

Deleting Entrant Names

To delete an entrant name from either the Previous Entrants list or the Today's Entrants list, click to select (highlight) the name in the list from which you want to remove them and then either click on the delete key or click this button:



Note that removing a name from Today's Entrants list only removes them from today's event, but removing them from Previous Entrants will remove them from **both** lists (if you have entered them into today's event)!

Printing a Qualifying Schedule

When all the entrants' names are in the Today's Entrants list, you can print a report of the order in which the entrants are scheduled to Qualify, by clicking on "Print Schedule". Posting a few copies of the schedule in your area can sure save answering a lot of the same questions over and over again!

Selecting Entrants to Qualify / "Auto Qualify All"

Once all entrants' names are in the Today's Entrants list, you can either proceed to manually qualify each of them, or you can completely skip qualifying by selecting "AutoQualifyAll", which 'qualifies' them automatically in random order.

To manually qualify the top-listed entrant in the Today's Entrants list, click on "Qualify Now". To qualify a different entrant, click on their name then click on "Qualify Now". This will display the Qualifying screen (see below), confirming the Qualifier's name, and allowing you to begin Qualifying for that entrant. If you cancel, you will return to the 'Entrants' screen, and you can restart qualifying for this entrant later and any other entrant now.

Byes

'Byes' are entrants who sit out qualifying, but will still race. They are created by using the "AutoQualifyAll" button. If you want to enter all Entrant Names before qualifying anyone, you must first qualify all racers who will actually be qualifying, then, when only the Byes are left in the list, select "AutoQualifyAll". Byes are always placed randomly BELOW the rest of the Qualifying field. If you are entering each entrant one-at-a-time, you may select "AutoQualifyAll" when a qualifier taking a bye is the only one in the Today's Entrants list. Don't select "AutoQualifyAll" if any Entrants presently in the Today's Entrants list are still planning to actually Qualify!

View Qualifiers

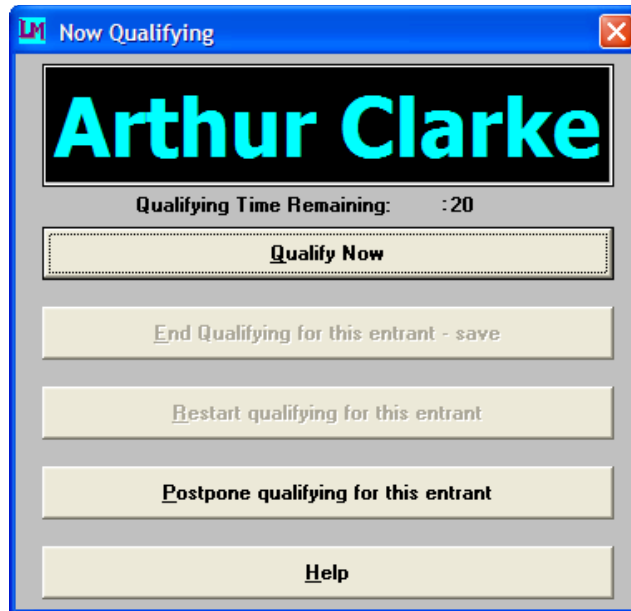
To view those entrants (if any) that have already qualified (and their results) you may click on the View Qualifiers button. To return from the "Qualified List" to the Entrants screen, select "View/Add Entrants".

Qualify Now

Click on an entrant's name, then click on "Now Qualifying" screen:

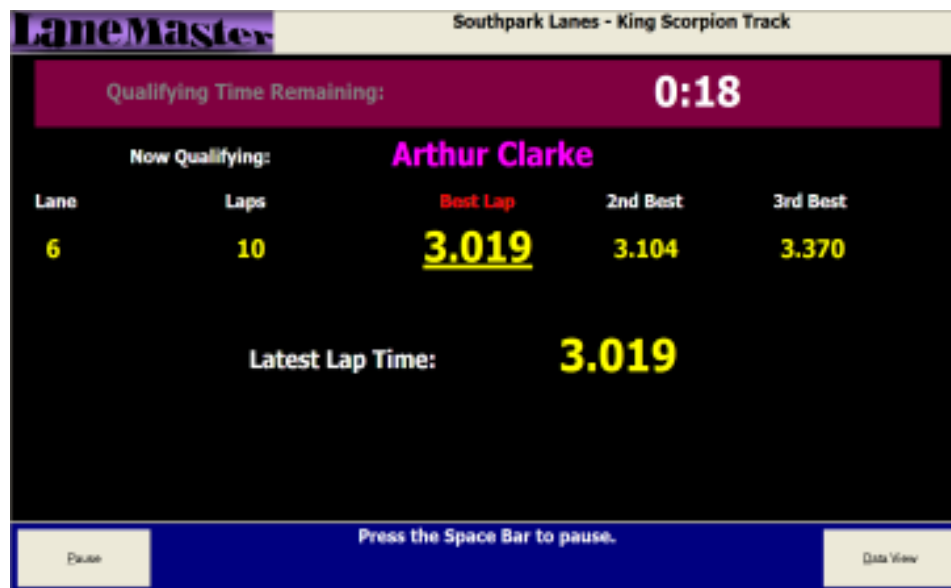


to display the



Qualifying

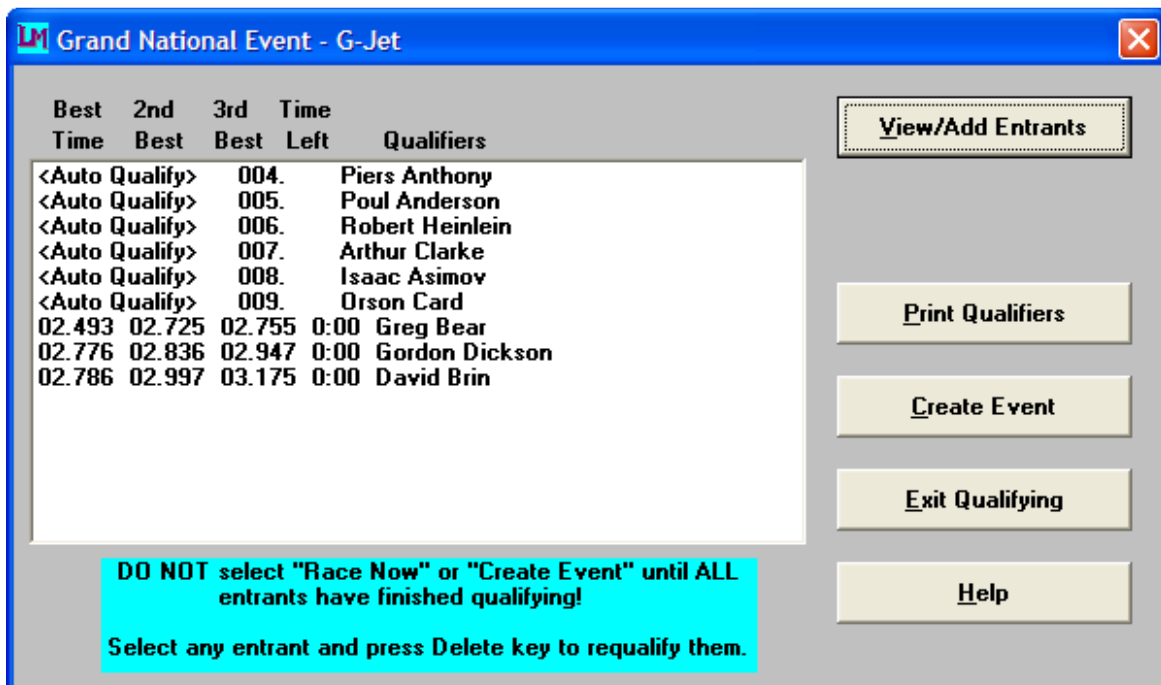
Entrants can qualify on any lane and LaneMaster will pick up the results, but they must stay on the same lane for the entire Qualifying period. When you select "Begin Qualifying" (on the Now Qualifying Screen), the screen will display a 3-second countdown before displaying the Output view screen, turning on track power, and starting the timer. Unless you selected Qualifying methods 2 or 3 (see "Qualify Mode", page 47), the qualifying period lasts for as long as you have selected in "Timing/Laps...".



During Qualifying, the racer's three best times are displayed, automatically updated as new best, second or third best times are achieved. When the racer sets a new Best Lap, the label turns red for a few seconds, as shown above.

To pause or end Qualifying early for an entrant, press the Space Bar. In the first round, you will always have the option of Continuing, Canceling or Restarting qualifying for this entrant. If an entrant has completed at least one lap, they have the option of accepting their current results as final. You may move on to the next qualifier by selecting "End Qualifying for this entrant - Save Results". If you select "Cancel", the current results are cleared and the entrant's name is returned to the *bottom* of Today's Entrants list to try again later. You can then select another entrant to Qualify using the methods described above. "Cancel" and "Restart" are not available in the 2nd round of Qualifying.

When the Qualifying Period ends normally (or if you have selected "End... - Save Results"), the updated list of qualifying results is displayed:



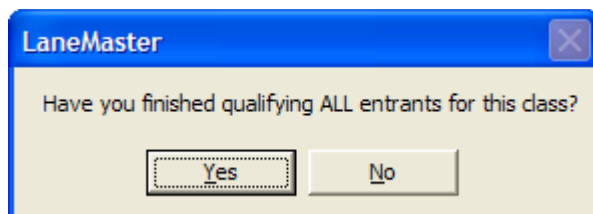
This screen shows a mix of standard Qualifiers and Byes.

Select "Print Qualifiers" for a printout at any time.

If you selected a 2-round Qualifying method, "Begin 2nd Round" will be displayed. If there are no entrants left in the Today's Entrants list, the "Create Event" and "Begin 2nd Round" buttons will be available for clicking, and you can either create the Event file now or start Round 2. If there are entrants left, select "View/Add Entrants" to return to the Entrants Screen and continue. If you wish to save the current qualifying results *without* creating an Event file (i.e., you have more entrants to qualify in this class but they are not ready yet, and you want to begin qualifying for another class, or you want to return to Data View to check any of your settings), select "Exit Qualifying". Select 'yes' to save the current qualifying results for the class. This will allow you to add more entrants to this class later (see "Class Name", p. 47).

Creating the Event File

As mentioned above, the "Create Event" button will only be available if all entrants in Today's Entrants list have finished qualifying and if you have **more qualifiers than you have lanes** - you cannot create an event (and must use Single Race Mode for racing) if you have fewer racers than lanes. As long as all entrants have been entered into Today's Entrants and then Qualified, you should be ready to create the Event file. If you do have more entrants to qualify for this class, **do not** select "Create Event" yet! First, select "View/Add Entrants" and finish entering and qualifying, then "Create Event" when you really *are* finished.

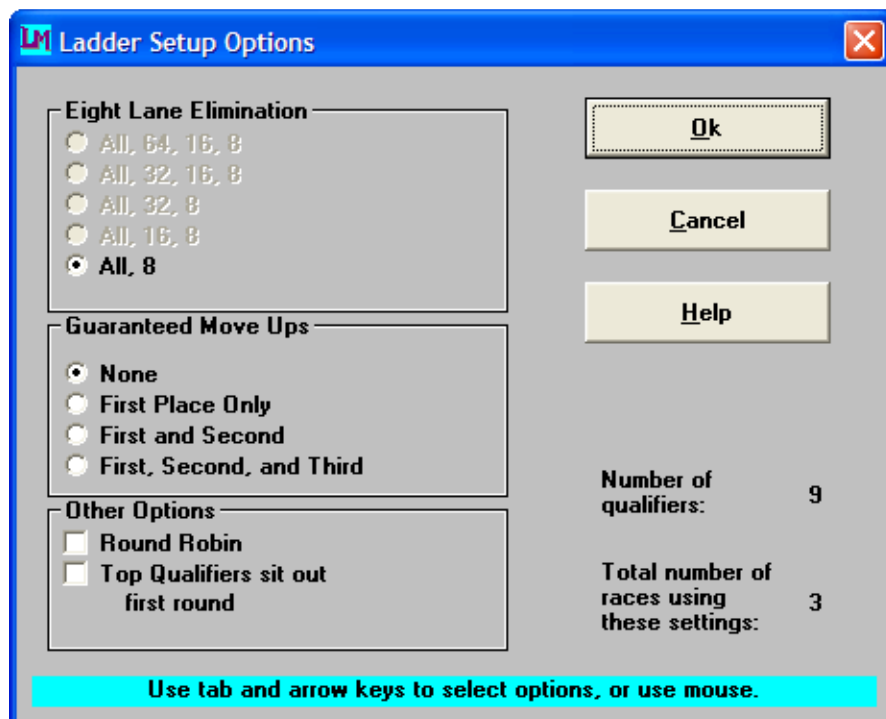


LaneMaster will ask you to confirm that you are ready to create the Event file.

As discussed in Section 2, "Terms and Definitions", the Event file is used to run a full set of races for a qualifying class, or one Round Robin race.

Setting Ladder Options

Once you click "Yes" to create the Event file, you will be presented with all of the Event setup options (i.e. Elimination Ladder, Round Robin, etc.) available to this Class:



Available options are determined by the number of Qualifiers in the Class and the number of lanes on the track. For instance, Round Robin mode will only be available if the number of Qualifiers is greater than the number of lanes and less than the number of lanes plus 26 (i.e. 34 on an 8-lane track). Likewise, if the number of Qualifiers is equal to an exact multiple of the number of lanes, "Top Qualifiers sit out first round" will not be available. Selecting certain options will prevent you from selecting certain others, and deselecting them will make the other options available again. Note that "Number of Qualifiers:" and "Total number of races using these settings:" are automatically updated each time that you select any option.

Elimination Ladder

The top box in the Ladder Setup window is used to select how many racers (not *races*!) will participate in each round of this class. *All* Qualifiers (i.e. "<All>, 32, 8") race in the first round (unless "Sit Outs" is selected.... see "Sit Outs" below), no matter what number of Qualifiers there were. Those that survive elimination in each round move up to the next round and race again. The numbers in the ladder description (i.e. "<All>, **16**, 8") show how many racers will race in the second round and beyond. Top finishers continue to move up until they reach the Main Event, which will consist of one racer on each lane on your track. For example, if there are 33 racers on a six lane track, you could select "33, 18, 6". This would mean 6 races in the first round ("All" 33 racers must race), 3 races in the second round (18 racers = 6 lanes * 3 races), and 1 Main Event Race (6 lanes, 6 racers). Note that you cannot select a ladder setup that requires more qualifiers than you have!!

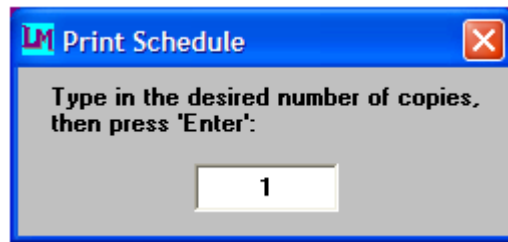
Guaranteed Move Ups

Select "Guaranteed Move Ups" as desired. If "none" is selected, all MoveUps are determined by comparing each racer's total number of laps. For example, on a six lane track, if the next round will consist of two races, the top twelve racers from this round will move up to the next round, *based only on lap totals and without regard to finishing position*. If "First only" is selected, the winners of races in this round will definitely move up to the next round *without regard to their total laps, even if they have less laps* than someone in another race who may not have finished first in their race. If "First and Second" or "First, Second, Third" is selected, those places in each race will move up, again, *without regard to their total laps*. Please note that some third place finishers might not move up if there are not enough slots available in the next round, or if "Top Qualifiers sit out first round" is selected.

Sit Outs

If "Top Qualifiers sit out first round" is selected, the number of racers above the lowest multiple of the number of lanes will sit out the first round. They will automatically move up and be seeded in the top positions of the second round. In other words, using this option, if you have 22 qualifiers on a 6 lane track, the first round will consist of 3 races (18 racers) and the top 4 qualifiers will not race until the second round.

Print Race Schedule



LaneMaster offers the opportunity to print the schedule of upcoming races.

This dialog box lets you know that you have successfully created an Event file, and can now run your event:



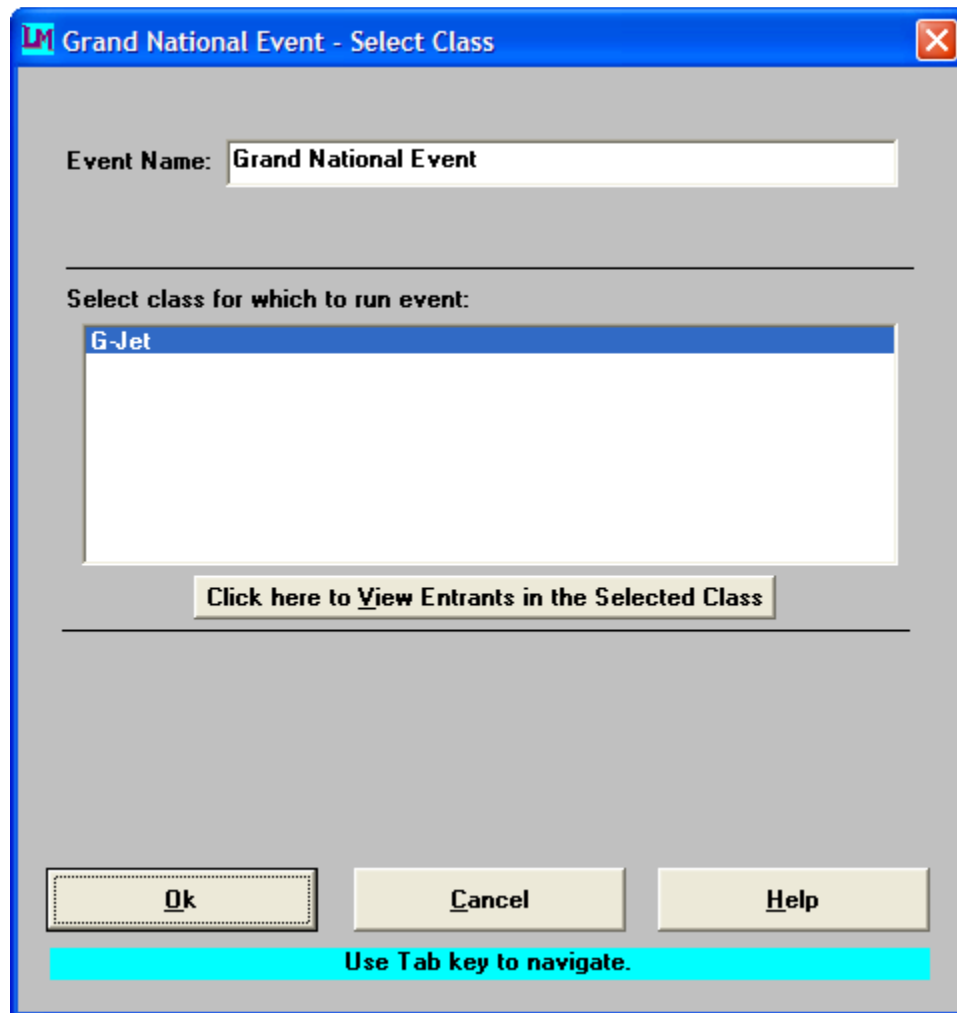
Event Mode

You must go through Qualifying mode (or Round Robin) to input entrant names before using Event mode. If you don't want to run qualifying for all or some of your entrants, you can use "AutoQualifyAll" as described on page 50.

Once you start an event, you must complete it before starting another one!

Class Name

When you click the "Event" button, if any Event files have been created, you will be prompted to select the class you want to start running:



If you have not created any Event files yet, LaneMaster will display a message box telling you that you need to create one. If you have created more than one, select the one to run now from the list. To check which entrants are in any Class, select the Class and click on the "Click here to View Entrants..." button.

Lane Selection

Once you have chosen the desired class, the names are shown for the first race:

The screenshot shows a window titled "Grand National Event - G-Jet" with a close button (X) in the top right corner. The window contains a table of racers and their assigned lanes, a section for available lanes, and a set of control buttons.

Round:	Semi-Finals	Starting Lane
Group: B { 1 of 2 }	BestTime	
David Brin	<Auto>	5
Robert Heinlein	<Auto>	3
Arthur Clarke	<Auto>	2
L. Ron Hubbard	<Auto>	
Orson Card	<Auto>	
<empty lane>		

Available Lanes

1 (red), 4 (orange), 6 (yellow)

< Double-click on any empty lane to add a racer, or on any name to edit it.

Ok, Clear, Help, Randomly Assign All, Show Lane Rotation

Qualifiers pick the lane they wish to begin the race on, with top qualifiers (or top finishers after the first round) getting first choice. You may click on the button showing the lane numbers, or you may press the number (or letter in the case of Round Robin racing) on the keyboard that corresponds to the qualifier's lane choice.

If you wish to add racers, move them around, or edit their names, this is your last chance before going into the race itself. Double-click on any name to edit it. For example if "Joe" and "Bob" don't want to be in the same race for some reason, you could swap them by replacing Joe's name with another racer's name (who hasn't raced yet!) and letting "Joe" race in place of the other racer later, when it would have been the other racer's turn. Of course, you'll have to remember to type in "Joe's" name later in place of the other racer!

NOTE: If any of the lanes are empty, they will show "<empty lane>" for the name. Any lane that says "<empty lane>" can be changed to an actual racer name if you want to add a late-arriving racer. Just double-click on "<empty lane>" and the "Edit Racer Name" box will pop up, allowing you to put a real Driver Name in. This DOES NOT apply to Round Robin racing... you can edit the existing Driver Names, but you cannot add any racers!

To show the lane rotation chart when choosing lanes, click to "Show Lane Rotation Chart".

Begin the Race

Once all lanes have been selected, click on "Ok" to show the Data view screen. You may then begin the countdown once the racers are in position, or you may click on "WarmUp" to turn power on and allow racers to practice before the race.

The race runs as in Race Mode (see page 39). At the end of each race, you will have the opportunity to print the results. In Event mode, you are *not* asked if you want to save the race results, since they are automatically saved for you. Once the results have been displayed, printed (or not printed) and saved, the current "MoveUps" and racers "On the Bubble" will be displayed. Once you click "Ok", you come back to the Lane Selection screen for the next group of racers.

Note: Just before the first race of each round (including the first round), you will be shown the currently selected Time settings. All races in the same round must use the same timing, but you may wish to switch to longer heats and/or rotation periods, if desired, for Semi-Finals or Finals.

Finally

After all the races in the event, LaneMaster will automatically combine and save all the information from the Event into one archive file. These archive files can later be viewed and/or printed using the "Race Reporter" feature (page 67.)

Once LaneMaster has finished the event and recorded the data, you will be given the option to exit the program. If you choose not to exit, LaneMaster will return to Practice Mode and clear out all Event data. At that point you can create or modify a class, run another event or just practice. If you choose to exit, LaneMaster will ask if you want to save any class or event files that have been created, but not run yet. If you save them, they will be available to run the next time you start LaneMaster. If you choose not to save them, they will be deleted. **Races and events that have already been completed *will not* be deleted if you say "Yes".** They can and should only be deleted through "Race Reporter".

Round Robin Mode

Round
Robin

Although Event Files are typically used for multiple races, to run a single Round Robin Race, you must also create an Event File. There are two ways to do this.

Method 1

Click on "**Round Robin**", then type racers' names into the Today's Entrants box or select them from the Previous Entrants list if they have raced with you before:

Set Up a Round Robin Race

Event Name: Class Name:

Previous Entrants:

- Arthur Clarke
- David Brin
- Gordon Dickson
- Greg Bear
- L. Ron Hubbard
- Orson Card
- Poul Anderson
- Robert Heinlein

Today's Entrants:

- Larry Niven
- Arthur Clarke
- Gordon Dickson
- David Brin
- Greg Bear
- L. Ron Hubbard
- Poul Anderson
- Robert Heinlein
- Orson Card

Slots Taken: **8**

Still Available: **24**

Double-click Previous Entrants' names to add to today's event, or type new names directly into "Today's Entrants":
Round Robin Mode supports up to "number of lanes + 26" racers.

This list sets the order in which Racers will select their lanes when the Event begins; first in list gets first lane choice.
Click "Ok" when finished to create the Round Robin event file.

In Round Robin mode, you can run an event with up to "Lanes + 26" Racers. In other words, if you have a 4-lane setup you can have as many as 30 entrants in one Round Robin Race; with 6 lanes you can have 32 entrants, and with 8 lanes you can have up to 34 entrants. This is the easiest way to create a Round Robin event, and you can control which racers go into which slots, **but** if you choose to use this method, entrants do not Qualify. If you want them to Qualify for Round Robin, go through the "Qualify" process, instead, and select "Round Robin" when saving the event file after qualifying.

Once you click "Ok – Create Event", you will see this message:

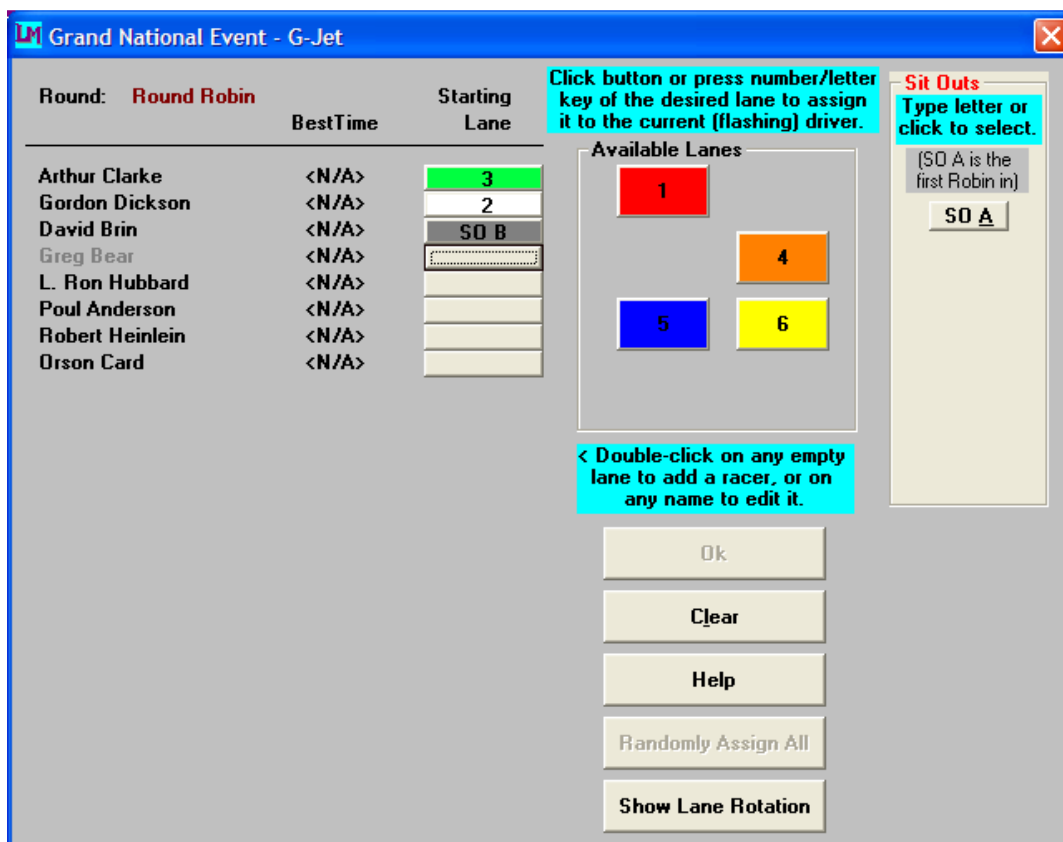


Method 2:

The second method is not as obvious. First, click on "Qualify". Then select the entrants for the Round Robin race from your list of Previous Entrants, or type in any new names (See "Inputting Entrant Names", page 48). If you want to, you can run Qualifying for each of the Entrants at that point. But if you just want to run a casual race, select "Auto Qualify All" to put all the entrants in random order. Then click on "Create Event" to create the Event File, and you will be ready to run your Round Robin race.

Lane Selection for Round Robin Races

As you might expect, Lane Selection is different for Round Robin Races:



If you compare this screen to 'Normal' Lane Selection (page 57), you will notice that the names are single spaced, rather than double-spaced (to accomodate up more racers!), and that there is an extra column on the right edge of the screen. The Racers still choose lanes based on how well they Qualified (or where they were randomly seeded by "Auto Qualify All"). But now, racers can choose NOT to start in the first heat by selecting a letter position and therefore sitting out one or more heats. The racer who chooses "A" will start on Lane 1 in the SECOND heat, "B" will start on Lane 1 in the third heat, etc. The racers who choose to start in the first heat will sit out one or more heats later, after they have finished the heat in which they race on the *last* lane.

If racers prefer not to select their lanes, you may click to "Randomly Assign All" lanes.

Round: Round Robin	BestTime	Starting Lane
Arthur Clarke	<N/A>	2
Gordon Dickson	<N/A>	1
David Brin	<N/A>	6
Greg Bear	<N/A>	SO A
L. Ron Hubbard	<N/A>	3
Poul Anderson	<N/A>	5
Robert Heinlein	<N/A>	SO B
Orson Card	<N/A>	4

Sit Outs
Type letter or click to select.
(SO A is the first Robin in)

Click button or press number/letter key of the desired lane to assign it to the current (flashing) driver.

Available Lanes

< Double-click on any empty lane to add a racer, or on any name to edit it.

Ok
Clear
Help
Randomly Assign All
Show Lane Rotation

After the Lanes have been selected.

Set the Timing

Just like other races, Round Robin races offer you the chance to change the time for this run only. If you prefer to stay with default timing, just click "Ok".

LM Timing

Heat Duration

3 Minutes 00 Seconds

Countdowns

Heat Start: 5 Seconds

After Track Call: 5 Seconds

Coast Time: 2 Seconds

Minimum Lap Time: 2.877 Seconds

Time between heats (Lane Rotation)

1 Minute 30 Seconds

Ok

Cancel

Help

Use mouse or tab key to select.

LaneMaster returns to Data View so that you can see who is set to race on each lane:

LaneMaster - Race Mode

File Settings Help

Lane 1

Driver: **Poul Anderson**

Heat Laps: 0 Last: 0.000

Race Laps: 0 Best: 0.000

Lane 2

Driver: **Arthur C. Clarke**

Heat Laps: 0 Last: 0.000

Race Laps: 0 Best: 0.000

Lane 3

Driver: **Gordon Dickson**

Heat Laps: 0 Last: 0.000

Race Laps: 0 Best: 0.000

Lane 4

Driver: **Hunter S. Thompson**

Heat Laps: 0 Last: 0.000

Race Laps: 0 Best: 0.000

Lane 5

Driver: **Isaac Asimov**

Heat Laps: 0 Last: 0.000

Race Laps: 0 Best: 0.000

Lane 6

Driver: **Robert Heinlein**

Heat Laps: 0 Last: 0.000

Race Laps: 0 Best: 0.000

Heat: 3:00

Rotation: 1:30

Heats: 6

Countdown

Warm Up

Cancel

GMC

Downs

Select "WarmUp" to allow racers to practice, or "Countdown" to start the race.

LaneMaster		Southpark Lanes - King Scorpion Track			
		G-Jet - Round Robin			
Heat:	1	Time Remaining:			2:04
Lane	Driver	Race	Heat	Last Lap	Best Lap
3	L. Ron Hubbard	17	17	2.496	2.496
2	Poul Anderson	17	17	2.802	2.595
5	Gordon Dickson	16	16	3.362	2.533
1	Robert Heinlein	16	16	3.641	2.564
6	Orson Card	15	15	3.021	2.939
4	Greg Bear	13	13	3.063	2.524
	Arthur Clarke	0			
	David Brin	0			

Press the Space Bar for a Track Call.

Track Call Data View

The leader board includes Robins who have not raced yet.

Robins Entering and Leaving the Race

In Round Robin mode, the racer coming off of the last (rightmost) lane in the rotation sits out all heats until it is their turn to come back into the race. The name of the next 'Robin' to enter the race is shown near the bottom of the screen. The Rotation Guide shows the racer on Lane 2 (Euro Rotation) moving to the Sit Out Pool.

LaneMaster		Grand National Event			
		Lane Rotation			
After Heat:	1	Time Remaining:			:41
Lane	Driver	Race	Heat	Last Lap	Best Lap
4	Greg Bear	50	50	3.237	2.524
1	Robert Heinlein	48	48	9.989	2.564
3	L. Ron Hubbard	48	48	2.558	2.467
6	Orson Card	46	46	2.905	2.497
2	Poul Anderson	45.05	45.05	6.975	2.524
5	Gordon Dickson	44	44	3.302	2.533
	Arthur Clarke	0			
	David Brin	0			

Pause

1 → 3 → 5 → 6 → 4 → 2

Entering on Lane 1: Arthur Clarke

Press the Space Bar to pause Lane Rotation.

Edit

The 'Robin' entering the race in the next heat is shown here.

The 'Robin' entering the race always enters on the first (leftmost) lane in the rotation. The number of heats in the race will always be equal to the total number of racers, including 'Robins', when you use Round Robin mode.

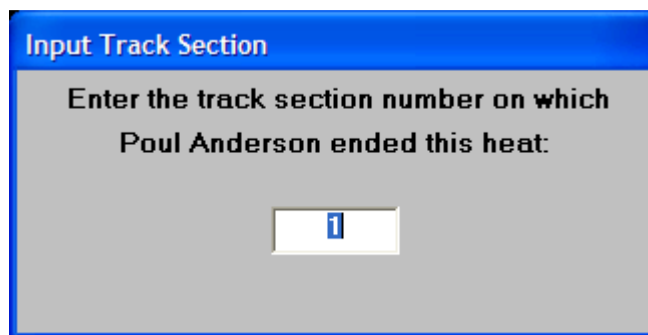
The Robins are shown on the screen (in dark gray) even when they are sitting out a heat, so that they will still be included in the overall order.

You can add a late-arriving Robin to the end of the rotation even after the race has begun, until all racers have completed at least one lap. To add a Robin, during Lane Rotation, click on "Edit", then "Add Robin".

Partial Laps (Track Section)

Note: this only applies if "Use Track Sections" is selected in "Settings" > "Timing/Laps..."

As each racer leaves the track, LaneMaster will ask you to enter the track section that the racer's car was on when picked up.



For racers who will return to the track later, this will show how much of their last lap they had completed and where their car will be upon returning. For those racers who are completing their last lap (and for ALL racers in the last heat) this will determine, to the fraction, how many laps they completed, altogether. This is to assure that racers who are no longer on the track get full credit for how far they got when comparing to other racers who finished their rotation earlier or later. In other words, the track section is used to break ties between racers with the same number of laps but who may no longer be on the track.

When racers leave the track prior to the last heat (i.e. enter the sit-out pool to return later), their track section is entered to record where they will be when they return. However, upon return to the track, that fraction is DROPPED. This is because they are re-starting beyond the start/finish line, and will therefore have to drive less than a full lap to get credit for the first lap on their return. Partial laps are only *kept* when the racer leaves the track for the LAST time.

Note that partial laps do not apply to normal (non-Round Robin) races, as the racers are recorded in the order in which they crossed the finish line in the last lap automatically, and all cars are still on the track when the race ends.

Southpark Lanes - King Scorpion Track
Lane Rotation

After Heat: **7**

Time Remaining: **1:12**

Lane	Driver	Race	Heat	Last Lap	Best Lap
	Robert Heinlein	287.11			
2	Arthur Clarke	285.10	50.10	3.272	2.581
4	David Brin	242	49	3.339	2.504
1	Gordon Dickson	241	51	3.940	2.489
6	Poul Anderson	241	44	3.030	2.430
	L. Ron Hubbard	239.04			
3	Orson Card	237	44	3.636	2.430
5	Greg Bear	234	38	2.935	2.639

Pause

→ 1 → 3 → 5 → 6 → 4 → 2 ←

< Sit Out Pool >

Enter on Lane 1: L. Ron Hubbard
Press the Space Bar to pause Lane Rotation.

Edit

As you can see in the illustration, the partial lap is shown to confirm a correct entry during Lane Rotation. If you need to change it, you can click Pause and then Edit to do so. Racers in the sit-out pool show the fraction on which they completed their most recent (or their final) lap on the track. After the last heat, LaneMaster will ask you to input the track section for all racers:

Enter track sections after final heat

Lane	Driver	Track Section
1	L. Ron Hubbard	4
2	David Brin	11
3	Gordon Dickson	7
4	Poul Anderson	9
5	Orson Card	16
6	Greg Bear	22

Ok

Cancel

Help

Round Robin:
Enter the track section
for each racer in
this final heat.

At the end of the race LaneMaster displays the totals, including partial laps, for the entire race as well as the last lap for which each racer was on the track:

LaneMaster		Southpark Lanes - King Scorpion Track					
		G-Jet - Round Robin					
Driver	Total Laps	1	2	3	4	5	6
Poul Anderson	291.09	45	49	51	52	44	50.09
David Brin	288.11	52	38	48	55	49	46.11
Robert Heinlein	287.11	48	46	50	49	48	46.11
Gordon Dickson	286.07	44	55	48	43	51	45.07
Arthur Clarke	285.10	53	43	50	43	46	50.10
L. Ron Hubbard	285.04	48	53	51	44	43	46.04
Orson Card	281.16	46	49	53	45	44	44.16
Greg Bear	279.22	50	52	48	46	38	45.22

Print

Press Enter to Print, Save, etc.

Next

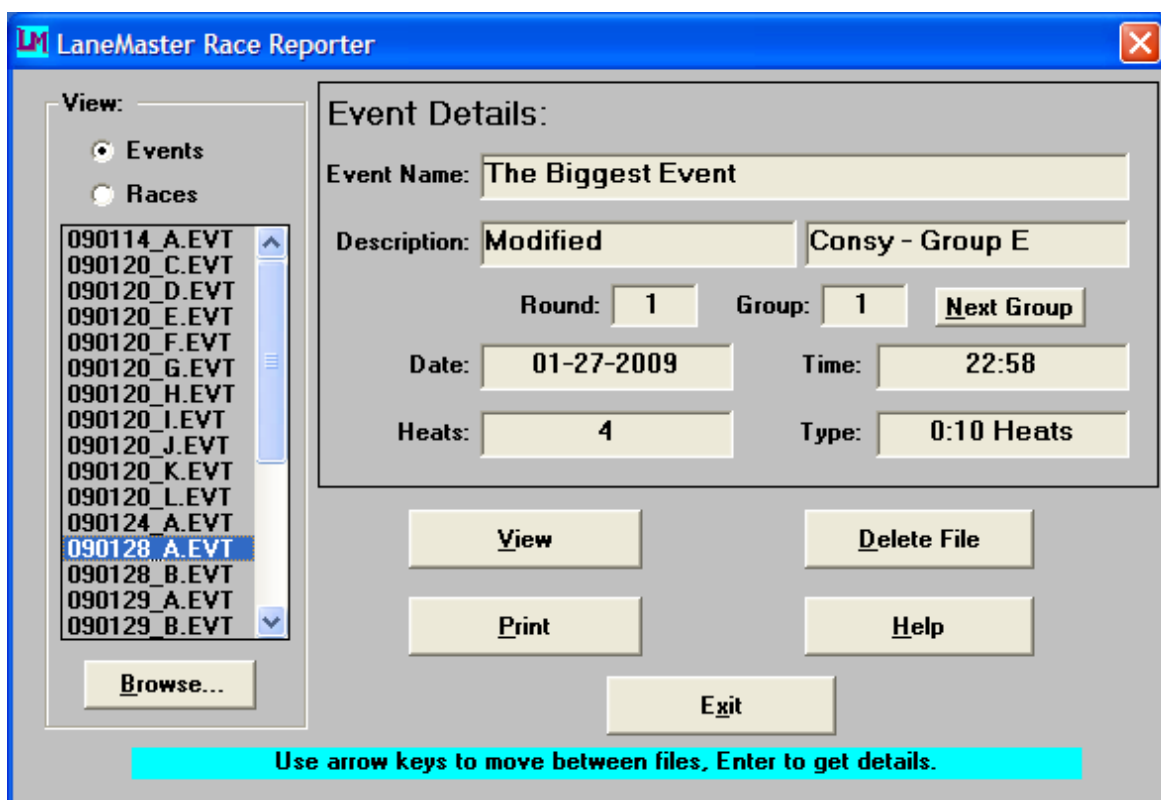
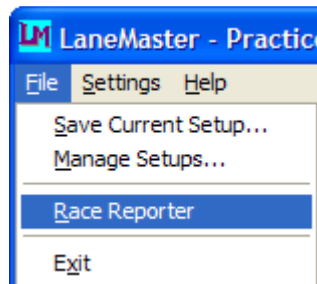
Show/Hide Robins

While running a Round Robin Race, during the heat, the button on Output View will toggle between "Show Robins" and "Hide Robins". This button allows you to toggle the screen to show ALL racers' results, including those currently sitting out, or only those presently on the track. If you have a large number of racers, you may have to shift the screen using the up/down/page up/page down keys to see all of the results when "Show Robins" is selected.

One more thing: You cannot use "4/8" mode (see page 23) when running a Round Robin event!!

Race Reporter

To view archived races and events, click on File, Race Reporter:



When Race Reporter comes up, it will show all the Events that you have run (except those that have been deleted). It also shows (in the view windows) all the descriptive information about the *first* race in the Event. To view a different Event, use the arrow keys to scroll the list of Events until you find the one you are interested in. If you press "Enter" when one of the files in the list is highlighted, or double-click on any Event name, it will automatically switch to "View" mode and show the results of the first race. To view other races in the same Event, click on "Next Group" to find the specific race you seek. and click "View", "Print" or "Delete" as desired. Use the tab keys to move between lists and buttons.

Race Reporter (continued):

"View" will display the race results just as LaneMaster does at the end of the race, with all heats and correct colors shown. "Print" will print the race in the same format as LaneMaster normally does. "Delete" will permanently remove the file with that name from your hard drive. Be sure to view events before erasing them so you don't delete the wrong one!

To view individual (event name optional!) races rather than Events, click "Races":

The screenshot shows the 'LaneMaster Race Reporter' window. On the left, under the 'View:' section, the 'Races' radio button is selected. Below it is a list of race files, with 'RACE0039.FIN' highlighted. A 'Browse...' button is at the bottom of this list. The main area, titled 'Race Details:', contains several text boxes: 'Event Name:' with 'Grand National Event', 'Description:' with 'Saturday Night Racing', 'Date:' with '10-04-2009', 'Time:' with '14:41', 'Heats:' with '8', and 'Type:' with '0:20 Heats'. At the bottom of the details section are five buttons: 'View', 'Delete File', 'Print', 'Help', and 'Exit'. A cyan banner at the very bottom of the window reads: 'Use arrow keys to move between files, Enter to get details.'

Section 5. Track Wiring

Pin Diagram for the required cable

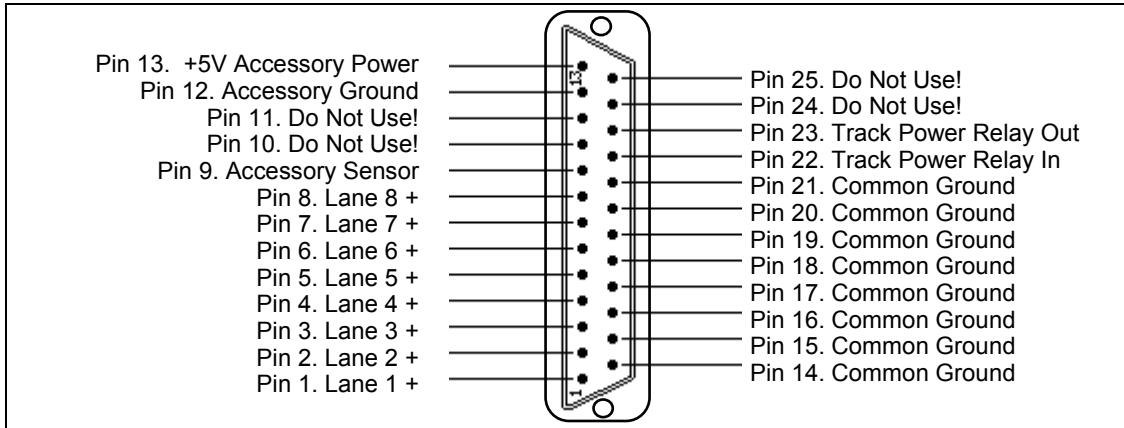


Figure 2. The LaneMaster Cable configuration. (These pin numbers are the numbers on the cable head, not the LaneMaster device itself!)

Important Note: When connecting the track to the LaneMaster board, it is **critical** that you use **shielded** cable. While the LaneMaster device does provide protection from stray signals, shielded cable is still required to assure that all laps are counted correctly, since a slot car track produces lots of stray magnetic and electric energy. Also, if your existing cable is longer than about **50 feet**, you will almost certainly require the LaneMaster Phototransistor Kit (page 73), which is sold separately.

Using "Dead Strip" or "Reed Switch" lap detectors

Pins 1 through 8 connect individually to one 'side' of Lanes 1 through 8.

Pins 14 through 21 connect to either:

1. the other (ground) 'side' of the lap detectors, or
2. to a common ground between all of the 'other sides' of the lanes (See figures 3&4). (This method is preferable.)

Direction of car travel does not affect how the detectors work with LaneMaster. You may wire your detectors on either side of the slot, as long as the detectors themselves are isolated from track power!!!

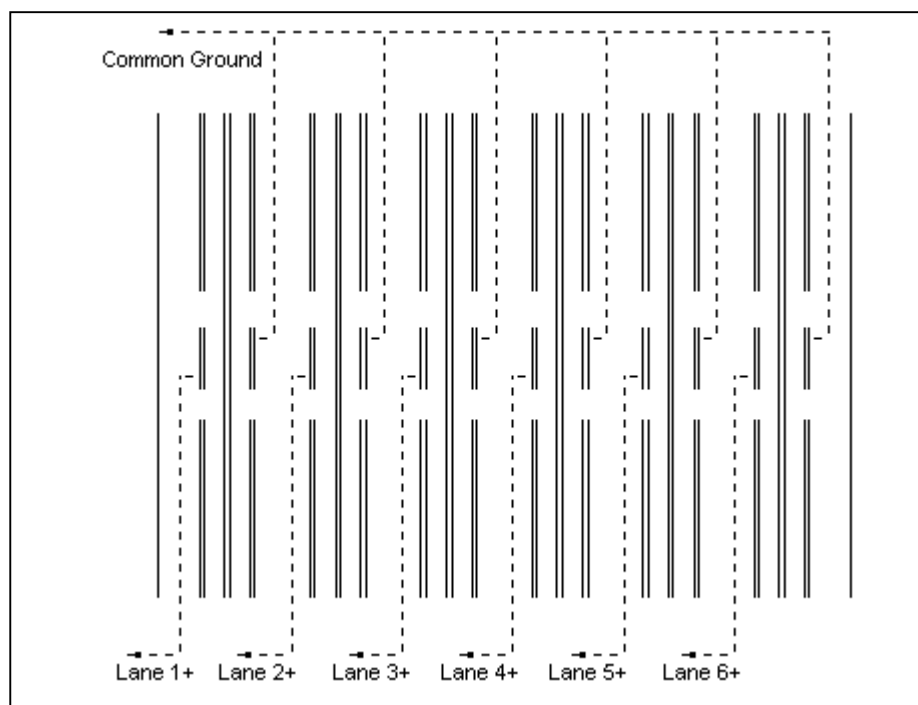


Figure 3. Wiring to the 'Dead Strip' track

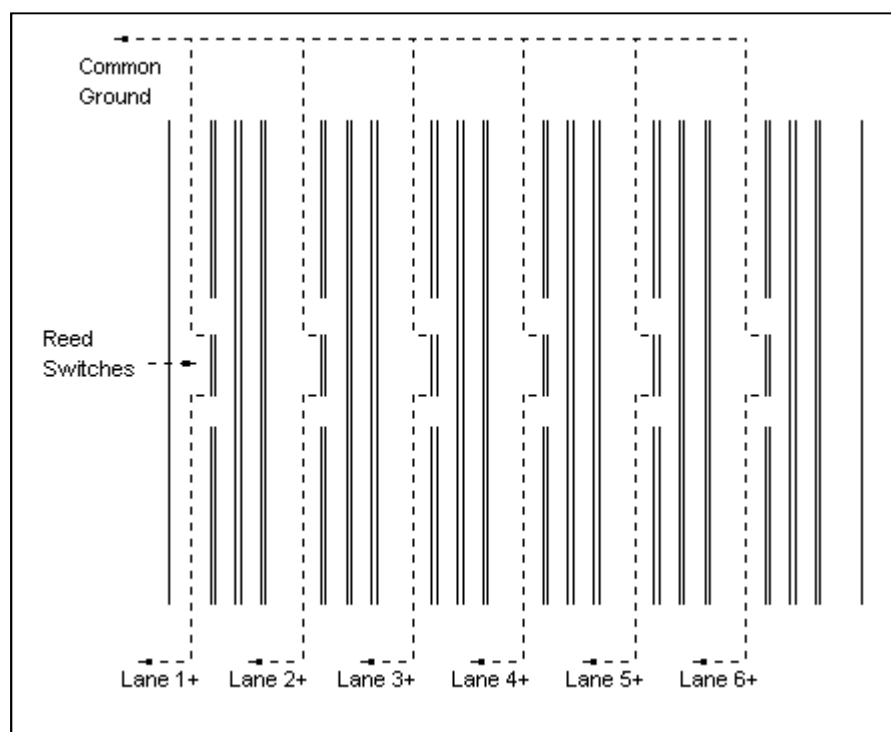


Figure 4. Wiring to the 'Reed Switch' track

Controlling Track Power for beginnings and ends of races

DO NOT RUN TRACK POWER DIRECTLY THROUGH THE LANEMASTER DEVICE!! DOING SO WILL DESTROY IT, AND VOID YOUR WARRANTY!!

In order to have LaneMaster control power to the track (and therefore eliminate false starts and 'late' endings), you must wire your track power **relay** through the LaneMaster board as shown in Figure 5 (below).

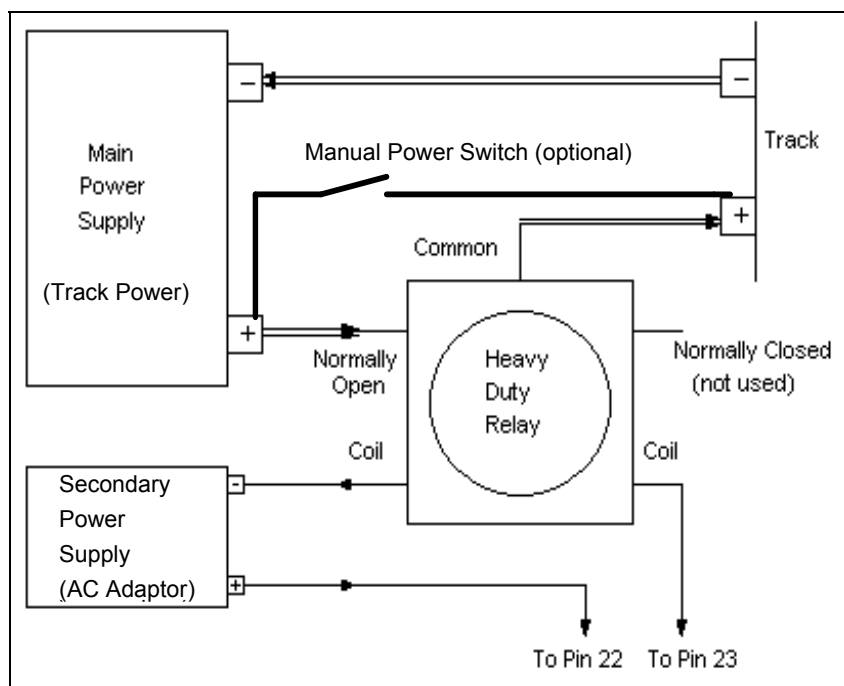


Figure 5. Wiring track power through the external relay (HDR).

Pins 22 and 23 on the LaneMaster board control power to the external "Heavy Duty Relay" (HDR). The HDR should typically have a 'coil voltage' of 5 or 12 volts. This means that the HDR requires that much voltage to activate, or turn on. The secondary power supply is a separate, small transformer "brick" (a plug-in AC adaptor, for instance), used **only** to turn on the HDR. The secondary power supply's DC output voltage **must** be equal to the HDR's coil voltage (i.e. powerful enough to turn the HDR on and off).

The HDR must be capable of handling the **amperage** (current) that your track draws. In other words, if you are using wall transformer power, a relay capable of handling 5 amps should be sufficient. If you are using battery power, a 30 or 40 amp relay is recommended. Again, even if you are using a wall transformer, you must use a Heavy Duty Relay in combination with the built-in relay on the LaneMaster device. **DO NOT** run track power through the LaneMaster unit!!!

Note that some other systems use a switch across the relay in order to turn track power ON while the computer is OFF. LaneMaster is designed to be more convenient, so if you are replacing another system, be sure you remove this unnecessary connection, or it could interfere with LaneMaster!

Controlling Track Power (continued)

The relay on the LaneMaster board is 'Normally Closed', so even if your computer is off, the secondary power supply will still supply power to the HDR, and your track will be 'On'. In order for this to work correctly, you **must** wire your track power through the 'NORMALLY OPEN' terminals of the HDR. If track power turns off when you expect it to turn on, and vice-versa, you have used 'NORMALLY CLOSED', and you must rewire the HDR.

Accessory Wiring and the Remote Track Call Switch

Pin 13, a 5-volt power source, is used to power optional LaneMaster external accessories. **DO NOT use pin 13 for any other purpose!**

Pin 9, the "Accessory Sensor" (Remote Track Call Switch) is used with one or more remote **momentary** 'push-off' (normally closed) button(s). This Remote Track Call button is used to pause the program for track calls without having to sit at the keyboard, so that you can be up and marshalling the turns. Pushing the momentary switch will pause races for a track call, just as pressing the spacebar would. During Qualifying, it will bounce back to the Qualifying data screen, just as pressing the spacebar would.

If you wish to install your own switch, wire from pin 9 to one side of the switch and from the other side of the switch to any common ground connection point.

Note: if you use multiple momentary switches, they must be wired in SERIES, not parallel. In other words, connect Pin 9 to one pin of the first switch. The second pin of the first switch should then connect to the first pin of the next switch, and so on, until the second pin of the last switch, which connects to ground.

The phototransistor kit (see section 6) includes a connection to plug-in an optional Remote Track Call switch.

Making your own cable

You may make this cable from a standard **shielded** 25-pin RS-232 ('straight through') computer cable, either Male-Male or Male-Female. You may also order one of the kits described in section 6.

To make your own cable, cut off one end of the computer cable (leaving a Male plug attached!), strip the wires and identify all of them, using a continuity tester, as to which pin they are attached to. To keep track of which wire is which, label them using small masking tape "flags". Write the number on the flag as you identify the numbered pin to which each wire is connected.

Connect the wires (as described above) for your type of track. You are strongly advised to make some sort of connector between your track and the cable, so that the cable will be removable. Ideally, you could make a short (~ 1-3 foot) cable from the track to a Female RS-232 connector, then use a normal length (up to 15 ft.) Male-Male RS-232 cable to attach the LaneMaster device to the Female connector.

Even if your lap detector grounds are connected together at the track, you are still advised to connect **all** of the wires from the LaneMaster board used for common ground (pins 14-21) to the common ground at the track. The more grounded, the better!

Section 6. Accessories

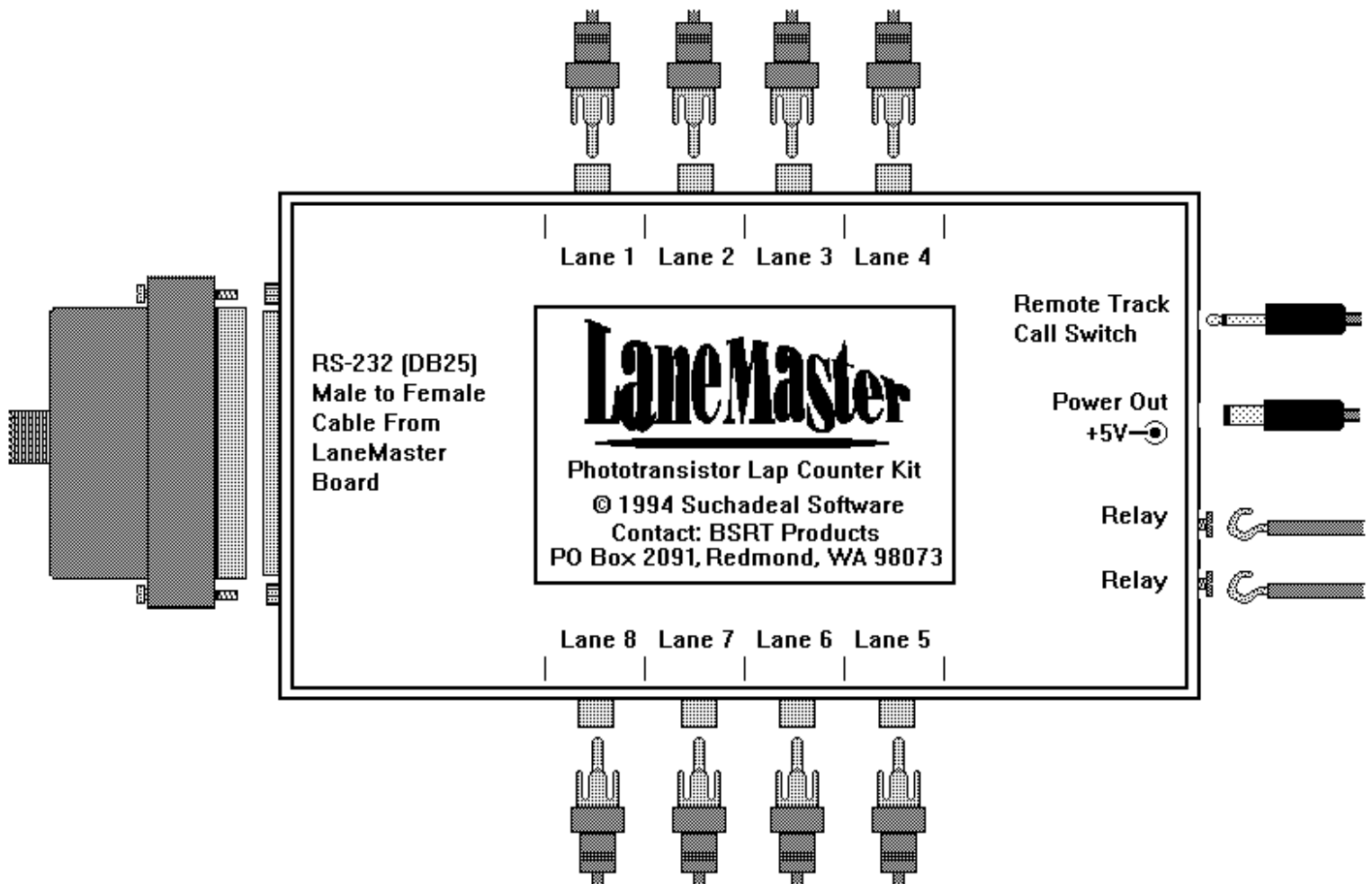
Dead Strip / Reed Switch Cable Kit

The Dead Strip/Reed Switch Cable Kit contains one 25-pin cable connected to 8 RCA plugs, plus 2 other wires, which connect between the secondary power supply and the Heavy Duty Relay's coil, from pins 22 and 23 (See section 4, figure 5).

Mount an RCA plug-in strip (available separately or from Radio Shack) to your track and wire it directly to the lanes. This allows you to plug and unplug each lane easily. Connect as explained in Section 4.

Phototransistor Lap Counter Kit

This kit offers the ultimate in convenience and precision for slot-car racing!! With it, you avoid the drawbacks of both Dead Strips (power interruption) and Reed Switches ('switch bounce' and inability to 'pick-up' certain kinds of cars with weaker magnets).



The Phototransistor kit includes a special module which you attach under your track and **does not require a light bar** in most cases!!

The Phototransistor setup features an RS-232 Male connector, so you can connect it directly to the LaneMaster board with a standard RS-232 ("DB25") Male-Female cable. It also features 2 screw terminals for pins 22 and 23 to easily hook-up to your Heavy Duty Relay, a power outlet for a Lightbar (if it is necessary), and connections to take advantage of the Remote Track Call Switch (see "Accessory Wiring", Section 4). The phototransistor sensors are mounted on flexible cables to accommodate varying distances between lanes.

(NOTE: If you are installing LaneMaster on a BSRT track, it already has the RCA plug-in strip installed, as well as pre-drilled holes for the Phototransistor kit, so either of these kits allow "plug'n'play" setup of LaneMaster!)

Please contact BSRT Products for more information about these accessories!!

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